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THE CLINICAL USES OF ELECTRICITY.*

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I propose to spend this hour, ladies, in talking to you about the clinical uses of electricity. Through the kindness of Dr. McIntosh I am enabled to show you to-day the mechanical contrivances that are used for the purpose of treating patients by the various forms of electricity. There are three of these in use—the Faradic battery, the galvanic battery, and the static machine, giving us faradism, galvanism, and frictional electricity. I propose to show you these instruments and to tell you something about the clinical advantages which they present.

The first kind of electricity to which I invite your attention is the static, and I now show you this machine, the best one, I think, we have. (Fig. 1.) It is a modification of the German machine by one of our Chicago electricians, Mr. Atkinson, and is made by the McIntosh Battery and Optical Company. The current is made in part by the friction of metallic brushes on the metal discs on the revolving glass plate, and in part by induction from the stationary glass plate. The one I now show you is the 16 and 18 inch plate. By turning the handle the electricity is produced. This form of electricity is used in several ways: first, by the method of electrization, and for that purpose we place the patient on an insulated stool and have her hold a wire connected with either the hoseline or negative Leyden jar. The positive current is the more tonic and sedative. The patient takes the electrode in the hand, this switch which you see here (pointing to switch) is thrown on, and the machine is started, and the patient is soon charged with electricity. Now, this may be termed an electric bath, for it has all the advantages of one. When we charge her with the electricity, her hair, you see, stands on end; you will find the pulse accelerated, the current escaping from every part of the body, gently stimulates the end organ, scatters everywhere throughout the skin and thereby promotes the action of this great emunctory. This improvement in the circulation and activity of the skin is accompanied with a general improvement of the nutritive processes, and after the daily use of the agent you will find your patient, as a rule, increasing in weight and in vigor.

This form of electricity is sedative. In no disease is this effect better shown than in chorea. Take a patient with the choreic movements and place her upon the insulated stool you will usually notice the movements cease as she becomes charged with the positive current—and marked remedial effect will often follow its continued use.

* A lecture delivered at the Woman's Medical College, Chicago, Nov. 2, 1888.

When we want to influence particular parts of the nervous system we can do so with this machine, by drawing off the electric sparks; that is, we can concentrate the electricity at various places and draw it off so as to produce pain by the use of a sharp-pointed, or better the spheroid, electrode. But should we desire to draw off (neutralize) the electricity without pain, but in such a manner that the patient may experience a certain sensation (the electric aura), the pointed electrode should be used, but held at such a distance that no spark will leap across the interval between the patient and electrode; it draws off the electricity from the person just as a lightning-rod draws electricity from the clouds. You can in this way concentrate the current upon the head, spine, or any other part of the body without pain, and produce a soothing and tranquilizing effect often very marked and thus relieve headache and pains elsewhere about the body.

In drawing off the current in this way the electrode must be connected with the ground or with the Leyden jar opposite the one connected with patient on insulated stool, and we have here, as you see, a hook for keeping the wire or cord from touching patients. In this way we can relieve disagreeable sensations in various parts of the body. Then we can with this machine give electrical massage. Passing the current over the body we get muscular contractions equal to those produced by the faradic current, and inasmuch as it increases the muscular contractions, it determines blood to the muscular structures, and promotes, as massage does, general nutrition. This we can do without removing the clothing.

We can also use what is known as the induced current in static electricity, that is the Leyden jars become charged with electricity on the inside. The current is induced on the outside, and this induced current passes from one jar to the other by means of this switch; by moving the rods connecting with the jars so as to bring the balls near or far apart we can produce a current of greater or less intensity, and quite like the faradic. We connect the wires with the switch, place the electrodes over the muscles we desire to influence, and graduate the current as desirable and thus exercise the muscles as gently or as violently as we wish without removing the clothing.

This machine, like all other electrical appliances, requires a great deal of care and attention. It must be kept clean and dry. If the atmosphere is damp it does not work so well. The machine should be placed in a glass case, the air of which can be made dry by heat when necessary. The machine may thus be made to work well, but if the air is very damp you will find it sometimes difficult to charge your patient thoroughly, because damp air is a good conductor. Under such circumstances throw over them a rubber water-proof or macintosh, and you relieve the difficulty.

The galvanic current is another useful current in medicine. This form of electricity results from chemical action, and the galvanic battery consists essentially of two elements of different electrical potentiality and fluid that is a good conductor. (Fig. 2.) The battery before you is a McIntosh, one of the most convenient and simplest in construction I know of. It requires no mechanical ingenuity to keep such a battery in order. We have two elements, the carbon and zinc, and a fluid that is a combination of bichromate of potash, sulphuric acid, bisulphate of mercury and water. When the battery is at rest there is a space here where these elements are placed. If you desire to have the battery in action, you put the elements in the cells containing the fluid, and the current is at once established.

For increasing the current we have bifurcated cords, which I now show you. By means of these cords we can get the current we need without any shock. These

cells vary their current strength from day to day. Each day the current strength grows less, but slowly. The current strength also depends somewhat upon the care and attention you give the battery, so that in order to prescribe electricity scientifically we must have some measure of current strength. For this purpose, electricians have devised a method by which we can measure these currents, and this is certainly one of the greatest advances that has been made in the therapeutic use of electricity. I can give my patient in Chicago a particular strength of current; I can tell him what the strength of that current is, and if he should move from here to New York, the physician there can give him the same current there. The instrument for measuring the current strength is the milliampère-meter. We have it on the table. We will adjust it so that our needle will be at zero, and charge the patient before you with electricity. The strength of current now passing is 40 milliampères, so that if we want our patient to have that strength of current passing through a particular portion of her body, we can designate it by the milliampère-meter.

One of the useful methods of applying galvanization is called general galvanization. This brings within the circuit all the important nerve centers, cerebral, spinal, and sympathetic. We will place the positive electrode over the forehead of the patient, while the negative electrode we will place at the nape of the neck. The current is now passing, being a little less than one milliampère. We allow the current to pass in this way for about five minutes. The current should never be interrupted while it is passing through the head. The administration of electricity to the head must be conducted at all times with the utmost care; the current should be mild so that the patient can just feel it. She is now getting one milliampère and a half through the head. When we take the electricity off the head, the current should be reduced so as not to produce any shock to the patient. If the rheostat is in the circuit with the patient, then you can graduate the current in the minutest sort of way.

The next step in the process of general galvanization is to put the positive electrode at the nape of the neck, and the negative in front and under the inner border of the sterno-cleido mastoideus muscle. There is now three-quarters of a milliampère passing through the neck. This is a very mild current, and one she appreciates.

We next pass the current through the sympathetic nervous system and through the spinal cord. To do this, we put the negative electrode over the epigastrium, which brings within the current the sympathetic nervous system as well as the spinal cord, and the positive electrode over the spinal cord, and we will increase the current until it is appreciated by the patient. Eight milliampères of current are now passing from the epigastrium to the spinal cord. This séance of general galvanization should occupy about 15 minutes. Its effects upon the nervous system are alterative, tonic, and sedative, and this kind of electricity administered with care is not at all disagreeable to patients. If the current be interrupted, the patient will have experienced shock, which should be avoided.

We may compare the galvanic electricity to a great river like the Mississippi, that flows along so smoothly and so silently that it seems to possess but little power until we attempt to arrest it; then its might is strongly manifested. But faradic electricity, like the little mountain stream, makes a good deal of noise, and seems to have a great deal of force, yet the damage it can do is comparatively slight.

Another important use for galvanic electricity is in cases of paralysis in order to produce muscular movements, and to do

that we must interrupt the current. In cases of paralysis in which we desire to produce muscular movements, we may use the faradic current, or the induced current of the frictional machine, or the interrupted galvanic current. If the muscles have undergone a certain amount of degeneration they will not contract under the influence of the first or second but may under the third; and when we are treating paralyzed muscles we must use, if we desire to benefit the patient, a current that will produce these contractions. If the faradic current does not produce muscular contractions, then we use the interrupted galvanic current, and the current we use under these circumstances is the least current that will produce the contractions. If we have a paralyzed arm, for example, and the faradic current or the induced current of the static machine will not produce the necessary contractions, we place the negative electrode of the galvanic current over motor points of the muscle, and interrupt the current; then we have muscular contractions.

Every now and then patients will be brought to you with infantile paralysis, and you say you must use electricity. The mother will say, "We have been using electricity for months without any benefit." You investigate and find she is using the faradic battery. You test the muscles, and there is not the slightest response to the faradic current; consequently months of valuable time have been thrown away by using an agent powerless for any good. This is a common occurrence in my experience. You take such cases and apply the interrupted galvanic current, and you will find it may require a powerful current to get the feeblest sort of muscular contraction. If you give such a patient the electricity daily you will notice that gradually a less and less current is necessary, and that probably after a while the faradic current will produce muscular contractions, and then you can continue the treatment with the faradic current. What is true of infantile paralysis is also true of other paralyses; you must always use a current that will produce contraction, and if no current will produce the result then the case is hopeless.

Galvanic electricity has another important use in medicine; it may be used for illuminating purposes in the examination of the cavities of the body, and by this electric illuminator we can do this much more satisfactorily than by any other means. This is an electric light illuminator devised by Dr. McIntosh for clinical purposes. Suppose we want to look at this patient's throat, we can illuminate the cavity of the mouth. If we want to look into the nose, vagina, rectum, etc., we can illuminate these cavities successfully by this electric illuminator.

I next invite your attention to the faradic battery. The faradic current is dependent primarily upon chemical action going on the same as in the other battery. This inducing current under modification passes through a coil of 150 feet of wire that interrupts it about 10,000 times per minute. The modification thus produced in the current gives it much increased effect upon sensory end organs and undegenerated muscular tissue. The faradic battery gives two currents, primary and secondary. The primary is produced as above; the secondary is induced in a coil of wire in close proximity to the first coil, and differs from the primary current in having no polarity, that is with each 10,000 interruption the polarity of the electrode changes, now positive, now negative. It also differs in its more irritating effect upon the sensory and motor nerves, producing mechanical effect when the primary fails.

The galvanic current passes through the patient's body with only a sensation of warmth, unless too strong a current be used. This faradic current, on the con-

trary, produces a marked irritating effect upon the sensory and motor nervous system. Where the sensory system is in a condition of anæsthesia, for example, the effects of this current are much more advantageous than the other. By passing a dry electrode, such as this faradic brush, over the skin, you stimulate the peripheral ends of the sensory and motor nerves, and in that way may stimulate the centers in the brain and spinal cord by reflex action, and benefit the whole organization.

In locomotor ataxia, in anæsthesia, and in neurasthenia the faradic brush is often of therapeutic value. The faradic current is also used in cases of paralysis in which the muscles will respond. Here its value is as great as the galvanic, and the convenience of its administration is much greater.

In using the galvano-faradic currents we often have occasion to use a rheostat. It is a very important addition in the use of electricity. It enables you to graduate the current with a surprising degree of fineness and exactness. You have some patients who are exceedingly sensitive to the electric current, consequently it must be carefully graduated. This rheostat consists of a glass jar containing water, with three metallic plates, one of which moves up and down between the other two, and in that way increasing and diminishing the resistance to the current. We will gradually increase resistance, making the current so exceedingly slight that it can scarcely be felt by the patient, and then by very gradually, almost imperceptibly, decreasing it, we can often use a current of greater strength than we could otherwise use, and on the most sensitive patient.

Here is a box of electrodes so shaped as to suit various parts of the body, such as the urethra, uterus, vagina, rectum, ear, tongue, etc. Here is an abdominal one, adapted for the treatment of congestions and chronic inflammations of the uterus and its annexa. The treatment of uterine tumors by electricity is becoming a matter of very considerable importance. The electrode which you see is made of animal membrane, very pliable, and is intended to fit upon the surface of the abdomen.

To succeed in the practice of medicine in the neurological department you must study carefully the use of these various forms of electricity and the care of these various applications.

EXTRACTS AND ABSTRACTS.

Illumination of the Larynx and other Body Cavities by Transmitted Light.—At the meeting of the Medical Section of the SCHLESISCHEN GESELLSCHAFT FUR VATERLANDISCHE CULTUR, at Breslau, October 26th and November 9th, Professor Voltolini read a paper upon this subject. We make a few extracts from the report in the *Wiener Med. Wochenschr.*, Nos. 47, 48, 49, of this year:

"I not only hope but am convinced that this new method of examination, which I present to-day, will sooner or later come into common use, and will be of great service in distinguishing benign from malignant growths in the larynx, and will also be of value in physiological investigations.

"This new method consists in the illumination of the larynx—and other body cavities—by transmitted light. In the larynx the light is directed through the tissues of the neck, while the laryngoscopic mirror is passed into the unilluminated pharynx.

"By this means not only are the separate parts of the larynx illuminated and visible as by the usual method, but the whole larynx is illuminated through and through. Everything can be examined. The vocal cords are perfectly transparent and the slightest abnormality upon the surface or within the tissue can be readily seen. In one sense it is possible to examine the tissues in the living body as with a microscope—since often in microscopic examination the main object is to see into the

tissues by means of transmitted light. . . . . As above stated this method is especially valuable for the recognition and differentiation of benign and malignant growths in the larynx.

"Growths frequently occur in the ventricles of Morgagni; these cannot be recognized by the usual laryngoscopic methods until they protrude from the ventricles; by means of transmitted light they can be seen when still entirely within the ventricle.

"At the present time Waldeyer's views upon new growths are generally accepted, viz: that in cancer epithelial prolongations grow into the underlying tissue,—briefly, that in malignant tumors the growth extends into the healthy tissues, while in benign tumors the growth is outwards. I have not now a case of cancer of the larynx under observation, but have several cases of benign polypoid growths upon the vocal cords, and I can assure you that the vocal bands appear clear and transparent and the polypi grow outward from the mucous membrane into the lumen of the larynx.

"The illumination of the larynx by transmitted light was first suggested and tried by Czermak, the inventor of the laryngoscope, and endorsed by Gerhardt and Stoerk. Czermak said ('Der Kehlkopfspeigel,' 2d edition, Leipsic, 1863, p. 31): 'I believe that in this method of illumination I have discovered a means of observing changes in the vertical thickness of the vocal cords, both physiological (register of the voice) and pathological, and that it will be a means of examining the deeper tissues directly. The usefulness of this method in rhinoscopy is very limited.'

"In reference to the last sentence I wish to say that the method proposed by me is of very great service in rhinoscopy.

"Soon after Czermak's publication Semeleder discouraged further studies in this direction. In 'Die Laryngoskie,' Vienna, 1863, p. 25, he says: 'This method of illumination seems very plausible, but I do not think it is capable of practical application; for in cases where the examination of the air passages is easy, a much better view is obtained by reflected light, and in cases where obstructions are present it will be fully as difficult to obtain a reflected image of the parts illuminated by transmitted light as by reflected light. Moreover, transmitted light is never sufficiently intense to afford a satisfactory view of the details.'

"Semeleder seems to have misunderstood the principle involved—and not to have tried the method himself; for illumination from above does not give the same definition as that given by transmitted light—just as under the microscope reflected and transmitted light give entirely different images, the one showing us only the surface, the other the structure within the tissue. Further, it is often possible, with transmitted light to obtain a good image of a larynx where it would be impossible to see anything by reflected light. The author demonstrated this point in the case of a boy with enormously enlarged tonsils. A good view of the larynx was obtained though the tonsils nearly hid the mirror—just as any cavity lighted from within can be fully viewed through an opening much too small to admit sufficient light for its illumination. Since Semeleder's publication, his method has scarcely been mentioned by any writer upon laryngology, although Professor Voltolini has regularly demonstrated it to his students.

"Heretofore the use of sunlight only has been practicable for this purpose, and this is the chief reason why the method has not grown in favor. For the sun is not always shining, and we are limited in our opportunities for making examination. Moreover, direct sunlight is not sufficiently intense; it must be concentrated upon the bared skin of the neck at the risk of burning it. The difficulties in manipulation are also considerable: The light must be directed upon different sides of the throat successively; any movement during the

examination on the part of the patient or of the condensing mirror leaves the larynx dark. The position of the patient, with the mouth open and the chin depressed, is a further disadvantage, and if the patient wears a chin beard, and if in addition to this it is necessary to draw the tongue forward, holding it with a napkin, the obstacles are multiplied, and great expertness is needed to obviate them.

"With the discovery of the incandescent lamp by Edison, this method of illumination has taken a different form. We have now an adequate light that can be used at any time, and upon all patients.

"The lamp for this purpose is prepared as follows: The back of the lamp is silvered to serve as a reflector. A small shoemaker's globe, filled with cold water, is adjusted in front of the lamp and serves the double purpose of concentrating the light and cutting off the heat. The lamp and ball are held in a metal case. For use it is adjustable upon the neck, and the observer is free to make any manipulation or to put the patient in any position he desires."

In a case demonstrated before the society, the whole larynx was perfectly illuminated, and the pharynx even, was partially illuminated from top to bottom.

A smaller lamp that can be held in the mouth, is used for illuminating the tissues and bones of the face. It is described more fully in the author's work on "Diseases of the Nose," just published.

Professor Voltolini uses three styles of lamps; a large one, 4 cm. in diameter, arranged as above described, for illuminating the larynx; one of medium size, to be held in the mouth, for illuminating the face; and a small lamp for introduction into the naso-pharyngeal space. He predicts that this method of illumination will be used in examining other cavities of the body, and mentions particularly the stomach and the uterus. F. S. J.

Curability of Cancerous Disease.—Dr. Edward von Meyer has a contribution to this subject in *Deutsche Zeitschrift für Chirurgie*, Bd. 28, Hft. 1 and 2.

Taking all the cases that show a definite duration of cure, 22, it is seen that carcinoma affected 11 cases, or 50 per cent., sarcoma 7 cases, cysto-sarcoma 2 cases, and melano-sarcoma and mixed tumor 1 case each. Of the cured cases of carcinoma there were: 1 case of carcinoma mammæ, 3 cases of genital carcinoma, 2 of nasal, 2 of labial, and 1 each of inferior maxillary, trunk, and extremity carcinoma.

The cases of cured sarcoma were: 1 of the genital apparatus, 1 of the nose, 2 of the lower jaw, and 1 each of the trunk, extremities, and head.

The 2 cases of cured cysto-sarcoma were of the mamma and lower jaw.

The longest duration of cure was in the cases of sarcoma, cysto-sarcoma, and fibro-sarcoma. Of the cases of carcinoma, 7 showed a duration of cure of more than 3 years, and 4 a cure of less than 3 years before the occurrence of death from other causes. In none of these cases were the neighboring lymphatics implicated. None of these cases had recurrence. In one case only, a spindle-celled sarcoma of the thigh, was it necessary to operate after 3 years for recurrence in the mammary gland.

Following is a résumé of all the cases mentioned: Of the 64 cases, 47 were carcinoma, 11 sarcoma, 3 cysto-sarcoma, 1 each of melano-sarcoma, fibro-sarcoma, and carcinoma-sarcomatodes. Of these, 41 were cured of the cancerous diseases, 22 being still living, and 19 have died of other affections. Of the patients now living, 7 have lived from 17 years 7 months, to 20 years 3 months; 2 are living after 17 years 4 months; 5 after 15 years to 17 years 3 months; and 8 from 9 years 7 months to 13 years 7 months. Only 1 person has lived less than 10 years 5 months. Of the 19 that have died without recurrence, 6 lived 10 years or more; 6 from 6 years 5

months to 8 years; 5 from 2 years to 4½ years; and 2 as much as 1½ years.

The nature of the tumors in those still living has been given. Of the 19 that died free of recurrence, 14 had carcinoma, 3 sarcoma, and 1 each cysto-sarcoma and fibro-sarcoma.

The regions affected by the tumors were as follows: *Carcinoma:* of the mamma 4, nose 6, lip 5, lower jaw and trunk 1 each, extremities 2, genital apparatus 5, head 1. *Sarcoma:* 1 each of the mamma, nose, trunk, genitals. head, and upper jaw; and 2 each of the lower jaw and extremities. *Cysto-sarcoma:* mamma 2, lower jaw 1. *Melano-sarcoma:* 1 of trunk. *Carcinoma-sarcomatodes:* 1 of extremities. *Fibro-sarcoma:* 1 of head.

The regional lymphatics were involved in 2 cases of carcinoma and 2 of sarcoma.

Removal of recurrence after removal of primary tumors (37 cases): 1 recurrence in 1 case (melano-sarcoma of inguinal glands); 2 recurrences in 1 case (carcinoma of the lip); 3 in 1 case (cysto-sarcoma of lower jaw); 4 recurrences in 1 case (sarcoma of lower jaw).

Of the 18 that died of cancerous disease, 9 died of local recurrence; 4 of metastasis; 3 of metastasis and local recurrence; 2 of impossibility of operation.

Recurrence of carcinoma took place as follows: nose, lower lip and cheek, mamma, forehead, lower jaw, 1 case each; upper jaw, 2 cases. Sarcoma recurred in one case on the mamma.

Metastasis affected the liver in three cases, after carcinoma of the leg, mamma, and maxilla; the stomach in one case, after carcinoma of the lower lip.

Metastasis and local recurrence took place in 2 cases of carcinoma mammæ, the metastasis being to the abdomen and leg, and to the liver; and in 1 case of perineal carcinoma, the metastasis being to the glands.

Recurrence took place usually within a year, in 1 case only later than 2 years.

The inoperable case was one of œsophageal carcinoma.

The duration of life of those that died of recurrence or metastasis was 11½ years in 1 case; 10½ in 1; 5¾ in 1; 5 in 1; 1½ in 2; and 1¼, 1, 8 months and 3 months in 1 case each.

Meyer has no doubt that the results would show still better had it been possible to follow up the private cases, of which a large number must be free of recurrence.

Curative Erysipelas.—For some time erysipelas has been known to have a modifying or curative influence on chronic skin diseases. SCHWIMMER has seen variable results in cases of syphilitic disease of the skin. Sometimes the erysipelas causes the secondary symptoms to disappear for a time, and sometimes it permanently cures grave syphilitic affections, such as serpiginous syphilides. Schwimmer has had a case in which eczema of the face and tumefaction of the cervical glands were cured by an attack of erysipelas. In another case an orchi-epididymitis, which had remained obstinate for some time, passed away suddenly during an attack of facial erysipelas. In still another case keloid growths, developed in the cicatrices of burns, were removed by erysipelas.—*Archives Générales de Médicine*, Dec., 1888.

Faradism in Hysteria and Epilepsy.—DR. A. DIDIER, in an article on the use of faradization as a means of arresting hysterical attacks and of diagnosticating between hysteria and epilepsy, draws the following conclusions:

1. Faradization is the best means of arresting or preventing an hysterical attack. It will abort cases of convulsive hysteria and some cases of hystero-epilepsy.

2. In difficult cases this method of electrization enables one to distinguish between an epileptic and a person with an attack of hysteria, or a case of epilepti-

form hysteria, or the convulsive hysteria of Charcot; the faradization has no influence on the epileptic attack.

3. In case of a person attacked by epilepsy and hysteria at the same time, the hysterical symptoms will disappear under faradization.

4. The method of using this kind of electrization consists in applying the electrodes of a faradic current of medium intensity along the path of the aura, that is, in the epigastric space and to the anterior portion of the neck, at the beginning of the attack. When the patient is not seen until the tonic or clonic period, one electrode should be placed on the neck and the other in one hand; or both electrodes may be placed in the hands.

5. Besides its abortive effects on the hysterical crisis, faradization has a curative effect, as has been known for some time.—*Lyon Médical*, No. 49, 1888.

Surgical Treatment of Suppurating Venereal Buboes.—In the *Vierteljahreschrift für Dermatologie und Syphiligraphie*, Heft 2, 1888, is a paper giving FLEISCHER and SZADEK's results of the treatment of suppurating buboes in the Military Hospital at Kiew, according to the method of Fleischer, introduced in 1880.

The total number of cases of bubo treated was 274, occurring in 1,084 cases of soft chancre treated in 1882-86. These figures seem to show that bubo develops in about one case in four of soft chancre; but Szadek says that it is not the extent of the chancre, but its seat and virulence that determine the inflammation of the glands. The bubo formed sometimes when the sore was healing, and in some cases even after cicatrization. Most frequently complicated with bubo were sores of the frænum and on the inner surface of the prepuce, and the majority of these buboes suppurated. Rarely was the suppuration limited to a single gland in these cases, and in almost all the abscesses several glands were involved, and soon became connected with the original opening by sinuses.

In 105 cases the bubo was situated in the right groin, in the left in 131, and both groins were affected in 38 cases. In the majority of cases of double bubo the chancre was on the frænum.

After the development of adenitis the chancre healed quickly. In most cases the bubo appeared three or four weeks after the chancre, but in some cases it did not appear until two weeks after the chancre had healed. From the beginning to the opening of the bubo in healthy persons was as a rule from two three weeks; but in anæmic, scrofulous, and tuberculous patients it was as long as from four to eight weeks.

The treatment of these cases was conducted on the following plan: In the earlier stage, so long as there was no fluctuation or redness of the skin, the only means used was rest and avoidance of all inguinal irritation, with antiseptic treatment of the chancre. If the skin was red, but fluctutation was not present over the whole swelling, hot compresses steeped in carbolic lotion were applied till uniform and complete suppuration occurred. Attempts were made in many cases to cause absorption of the bubo, as by painting it with tincture of iodine; but these attempts all failed, the only result being some relief to pain and a longer course of the abscess. When fluctuation was complete, the hair was removed, the skin thoroughly cleansed with soap, followed by the application of a 5 per cent. solution of carbolic acid, or a 1 per cent. solution of corrosive sublimate. Then an incision, corresponding with the length of the bubo, was usually made parallel to Poupart's ligament, the pus was evacuated, any existing sinuses laid open with scissors, and all swollen glands removed by means of the fingers or sharp spoon, the capsule of the gland being incised when necessary. Lastly, all destroyed portions of skin were removed by

means of the scissors. The abscess-cavity was now washed out with corrosive sublimate solution, powdered with iodoform or iodoform and alum, and filled with iodoform gauze. Over this was a dressing composed of layers of gauze or wool impregnated with sublimate and salicylic wool was applied, and then a ball of jute or tow, and the whole covered with a piece of macintosh or varnished paper, and secured by a spica bandage. This dressing was generally left for from two to five days, when the wound was simply dressed with iodoform, the second dressing being left until oozing appeared at the edges.

The wound usually healed under from two to five dressings, the average duration being 30 days. No burrowing nor formation of pus occurred, and in no case did the buboes become chancrous. Erysipelas occurred in 5 cases, and eczema in the neighborhood of the wound 12 times; 26 suppurating syphilitic buboes were opened, and healed without scraping or removal of glands; 12 cases of tuberculous adenitis of the groin were treated by removal of glands, scraping, and application of iodoform. There were no cases of iodoform poisoning.

Dyspeptic Dyspnœa.—Dr. W. H. Katzenbach says that dyspeptic dyspnœa is characterized by a sense of weight or oppression across the chest, an almost constant desire to draw a long breath, and a feeling that the air does not enter the lungs to a sufficient depth. Repeated inspiratory efforts are made. The body is fixed in some certain position, or a sudden quick change of position is made before a satisfactory inspiration is obtained, but the relief is of short duration, and these efforts must be soon repeated. Diversion, intense occupation, or active bodily exercise, such as rapid walking, sometimes mitigates or relieves the attack. None of these ever aggravates it. Dyspeptic dyspnœa occurs after meals, in the intervals of stomach digestion, and not infrequently at night. The duration of the attacks is variable, but they usually extend over a considerable portion of the day or night. They usually recur daily, or at intervals of a few days, for weeks or months, or there may be but a single attack.

There is a more alarming form of dyspeptic dyspnœa, the paroxysms of which occur at night only. Patients complain of severe attacks of shortness of breath, of smothering coming on at night, and unaccompanied by wheezing, as in asthma. The paroxysm usually occurs after the patient has gone to bed. He is awakened with a feeling of oppression and weight across the chest, a distressing sense of suffocation, and inability to get his breath. He sits up in bed, and makes strong efforts to inspire, but the air does not seem to enter his lungs. No position gives comfort. Becoming excited, his heart beats rapidly, and this increases his distress and discomfort. The respiration is slow, irregular and sighing. The expression is one of great suffering. The face is pale, the surface cool, and perspiration may appear on the forehead only, or upon the whole body. The heart's action is usually rapid and irregular; it may be slow and regular.

The attack lasts from half an hour to an hour or more. It subsides gradually, and the patient falls asleep, but he may be awakened by another before morning. The attacks may recur several successive nights, or at longer intervals over a considerable period.

The ordinary mild form of dyspeptic dyspnœa is to be distinguished from the dyspnœa of anæmia, chlorosis, or hysteria. In anæmia the breathing is rapid while the individual is quiet, though he may not be conscious of it, but it is still more rapid, labored and suffocative from effort or excitement. The more severe and nocturnal form of dyspeptic dyspnœa is to be distinguished from that occurring in uræmia. In the latter the difficulty of breathing is very distressing, but the patient is less ex-

cited. He gasps for breath quietly, but with great effort. Here, also, are symptoms of organic disease. In bronchial asthma the dyspnœa is expiratory, the breathing is audible at a distance, and signs of bronchial spasm are obtained by auscultation. In the dyspnœa from cardiac disease the respiration is panting, and cyanosis and anasarca, with other symptoms of heart disease, are present.

The majority of cases of dyspeptic dyspnœa yield readily to treatment directed to the morbid conditions present in the digestive system. If the attacks of dyspeptic dyspnœa are of the milder form, and occur in the intervals of stomach digestion, measures must be employed to improve the functions of the digestive organs and restore nutrition to a healthy state. Diet, clothing, bathing, hours for rest and sleep, as well as for exercise and diversion, must be regulated. The abuse of alcohol, tobacco, coffee, tea and venery must be corrected. Electricity, massage and sea bathing are valuable agents in treating the chronic dyspeptic. If the patient suffering with a severe attack of dyspeptic dyspnœa has recently taken food, the stomach should be evacuated, by an emetic or the stomach tube, and further washed out. This should be followed by tonics and aromatics.—*N. Y. Medical Journal*, Dec. 29, 1888.

Spontaneous Strangulation of the Limbs.—Under the name *ainhum* Dr. Silva first described in 1886, in the *Gaceta Medica de Bahia*, a curious spontaneous strangulation of the limbs. Dr. C. Buicli, of Bucharest, records two cases in the *Archives Roumaines de Médicine et de Chirurgie*, No. 1. From previously recorded cases, and from his two, Buicli concludes:

1. That the process by virtue of which the strangulation becomes operative, takes place during intra-uterine life. This process becomes completely developed before birth. No change takes place afterwards in the state of the parts.

2. The constricting furrow is sometimes simple and isolated, sometimes accompanied by congenital vices of conformation which lead to a true mutilation of the limbs. It is in the latter cases situated preferably at the level of the smaller members—the fingers; the lesion is bounded by simple circular depressions, or is characterized by the absence of one or more phalanges.

3. At the place of constriction there is sometimes obnubilation of sensibility; in other cases this change is absent.

4. The depression affects not only the skin and soft parts, but also the deep tissues, the bones.

5. While this lesion may be congenital it does not appear to be hereditary.

Medical Department, U. S. Navy.—Surgeon-General J. M. Browne has recently submitted the report on the health and general condition of the Navy, so far as concerns the Bureau of Medicine and Surgery.

The Naval hospitals are reported as being generally in a satisfactory condition, but the hospitals at Portsmouth, N. H., and Norfolk, Va., are in a dilapidated condition.

The Museum of Hygiene is overcrowded, and should have a much larger building. At present it has only a part of a building. Our Government seems to be excessively one-sided in the matter of liberality. This is seen in the case of the vacancies in the Medical corps of the Navy. The condition of assistant surgeons in the Navy, in the matters of rank and pay, is such that it is difficult to get desirable men to apply for the service.

Passed Assistant Surgeon C. W. Rush makes an interesting report on the medical condition of Alaska, the inhabitants and diseases of the country, and the mineral springs, of which there are a great many. These springs are hot and cold, and impregnated with sulphur, iron, and magnesia.

Passed Assistant Surgeon F. S. Nash has a report on the expedition to Northern Alaska. His report is unfavorable to the use of lime-juice as an antiscorbutic.

Medical Inspector T. C. Walton reports an epidemic of "sore throat" at U. S. Naval Academy at Annapolis; the sore throat was of diphtheritic nature. The most satisfactory general plan of treatment was to begin with a saline cathartic; give liquor ammon. acetatis during the height of the febrile stage; then tinct. ferri muriatis in from twelve to thirty drop doses, diluted with glycerine, every two to four hours, according to the degree of lessened vitality; also alcohol rather freely, as milk-punch or whisky and water; hot milk, beef-tea, and ice when asked for. Locally, frequent spraying of the throat with lime-water, applying tinct. ferri muriatis, pure or diluted one-half with glycerine, over the affected parts every three or four hours; syringing the throat and nostrils daily with a solution of chlorinated soda, or more frequently when fœtor was perceptible, care being taken not to forcibly detach the membrane. Externally over the painful glands a mixture of tincture of belladonna and iodine afforded relief. The patients were isolated until recovery was complete.

From the report on the Museum of Hygiene we learn that Medical Inspector Charles H. White has devised a simple method for the determination of urea, the apparatus for which can be easily made and used on board ship. Unfortunately, the method is not described in the report.

Aspiration and Drainage in Purulent Pericarditis.—At the meeting of the Clinical Society of London on Nov. 23, Dr. Dickinson related the case of a boy, aged 10, who was brought to St. George's Hospital with symptoms supposed to be pyæmic. A large gluteal abscess was followed by signs of pleural effusion and œdema of the face and chest. On admission, June 15, 1887, there was evidence of effusion in the left pleura and in the pericardium. The position of the heart was almost undiscoverable amid the dullness, which involved the left pleural and præcordial regions. There was much dyspnœa, blueness, and irregularity of the pulse. Œdema was more or less general, but especially marked about the thorax. The liver was enlarged or depressed so as to reach the umbilicus.

On June 18 the pleura was aspirated, and 37 ounces of serum were drawn off: this operation was repeated on the 23d with the removal of 32 ounces. The dyspnœa, blueness and œdema were but slightly and temporarily relieved by the operation, which was repeated on June 25 and 28, so rapid was the accumulation and so great the distress.

On June 30, the futility of dealing with the pleura having become apparent, the pericardium was aspirated, and one ounce of creamy pus withdrawn. On July 8 the aspiration was repeated with more success, 12 ounces of creamy pus being evacuated, and on the 15th with the removal of 19 ounces. The puncture was made on the right side close to the edge of the sternum, in the 5th interspace. Before each of these operations the heart was carried to the left by an evacuation of the pleura. The lower part of the pericardium, where the swing of the heart was greatest, and the right extremity of the cavity, from which the heart was farthest removed, was obviously the part that could be penetrated with the greatest safety.

By July 22 the pericardium was again as full as ever, and the general symptoms distressing. An incision was made where the punctures had been, and a tube was put in. This aspiration was followed by some faintness, but subsequently by great relief. After some temporary drawbacks, and three subsequent aspirations of the pleura recovery became complete.

Mr. Parker related a case of extensive pyopericarditis (associated with osteo-myelitis of the tibia) which he had freely in-

cised. Death occurred while irrigation was being practiced to wash out the thick membraniform pus with which the pericardium was distended. As to the best place for the puncture, or opening, Mr. Parker recommended the 4th left interspace, close to the sternum.

Dr. Dickinson's rules for puncture are: 1. Make sure that the pericardium contains fluid. 2. Make out where the heart is. 3. Keep clear of it.—*British Medical Journal*, Dec. 1, 1888.

Hæmatoma of the Ear in Football Players.—Mr. F. A. Southam says that the traumatic variety of hæmatoma auris is not infrequently met with in those who take part in the Rugby game of football. It may be caused by hard hits on the ear, or in a "tight scrimmage" by the pressure and friction exerted by the arms and bodies of the other forward players on the ears and side of the head, when the latter is bent downwards and forwards. Possibly a predisposing factor is the congested condition of the vessels of the head and neck, the result of severe straining efforts on the part of the player. The affection has become so frequent with the players of the Rugby game that many of the forward players wear a tight-fitting cap with lateral flaps to protect the ears.

In most cases the effusion into the auricle of the ear is slight, and it becomes absorbed spontaneously in a few days. But it is not very uncommon for the extravasated blood, probably mingled with some inflammatory exudation, to become organized and develop into fibrous tissue. This is more likely to occur if the person continues to play, paying no attention to the swelling of the ear. The consequence is, the upper portion of the auricle, the part usually affected, remains thickened and indurated, eventually assuming an irregular shrivelled-up appearance, owing to the contraction that takes place in the newly formed connective tissue. In some cases suppuration occurs at the site of the injury, and deformity occurs after the pus has been evacuated and healing has taken place.—*British Medical Journal*, Dec. 8, 1888.

Bavarian Plaster Jacket for Fractured Spine.—Mr. F. R. Humphreys says: In a recent case of fracture of the mid-dorsal region of the spine, the patient becoming unmanageable, it was determined to put her up in a plaster jacket. On the third day after the accident this was done, with the assistance of two nurses, as follows:

We took two pieces of house flannel, one 2½ yards long, ¾ of a yard wide; the other about 2 inches less in width, and 40 inches in length. We passed the longer piece under the patient in the same way as a draw-sheet; it reached from the acromial process to the lower part of the sacrum. The two sides were now brought together in the middle line in front, and sewn as close to the skin as possible. The axillary portion was split, the edges pared, and shoulder straps attached. Next, the extra pieces of flannel in front were split in about 8 pieces, nearly down to the stitching, and the alternate pieces tied together round a clothes-prop, cut about 2 inches shorter than the bed, so that it could be lifted straight up without knocking it against the bed. The straps were carefully tied, so as for all of them to be of the same tension when the weight came on them, and the patient was then lifted clear off the bed without pain or inconvenience. The lower limbs and the head were supported by a towel tied around the pole, which was then braced up to another one that had been previously placed on the head and foot rails.

The second piece of flannel was then dipped in the plaster mixture and applied to the first piece, muslin bandages wound round the whole, passing through the spaces left in front by the alternate strips of flannel alone being tied. It is advisable

to sew the shoulder straps on to the back part before placing this under the patient. —*British Medical Journal*, Dec. 1, 1888.

Codeine as a Substitute for Morphine.—Dr. Fischer, of Kreuzlingen, writes to the *Correspondenzbl. für Schweizer Aerzte* that for the last five years he has been using codeine extensively in cases in which morphine is indicated internally. A dose of 0.025 or 0.03 grams of codeine is said to be physiologically equivalent to 0.01 of morphine. Fischer gives codeine internally in powder, but when its bitter taste is objectionable he gives it in a mixture. It may be used externally in the form of suppositories, salves, inhalations, etc. Fischer warns against the rather common idea that the narcotic action of codeine is weak and unreliable. When genuine it has a most marked and constant anodyne and hypnotic action. It never causes bad secondary symptoms, even when given in full doses (as much as 3 centig.) three or four times daily for many successive days. Fischer states that codeine continues to produce its full physiological effects without an increase in the dose being required. The patient does not acquire a codeine habit, nor a craving for the drug. It is especially valuable for the agonizing cough in pulmonary phthisis or bronchitis, and as a hypnotic in all cases of insomnia, except that due to very severe pain.

Treatment of Furuncle of the Ear.—Lœwenberg (*Transactions Ninth International Medical Congress*), believing it now demonstrated that furunculosis is caused by the introduction into the sebaceous glands of the staphylococcus aureus, the staphylococcus albus, or the S. citreus, or two or all three, rejects cataplasms and all emollients, using antiseptics only. He uses with great success instillations into the external auditory canal of a saturated or concentrated solution of boric acid; 20 grams of boric acid to 100 of absolute alcohol. When the furuncle is far advanced, and there is no hope of resolution, it is opened by means of the galvano-cautery wire, or the epidermis is scraped off and the above-mentioned mixture instilled. When taken in time they are often aborted, and in all cases they disappear more rapidly and are less painful, especially when cocaine is added to the mixture.

Having noticed the frequency of furuncles of the ear after the removal of plugs of cerumen Lœwenberg now uses antiseptic solutions only for their removal, and they no longer occur. Prophylactic instillations of the solution act well in women troubled by furuncles at the menstrual epochs, and persons who have them at certain seasons of the year.

The Gastric Juice in Febrile Diseases.—Dr. Anton Gluzinski, of Cracow, after some extended experiments on this subject, draws the following conclusions:

In regard to the acute infectious diseases:

1. During the whole course of the fever (except in the final stage of typhoid fever) the gastric juice contains no hydrochloric acid.

2. The gastric juice digests neither in the organism—since it contains no peptone —nor outside the organism.

3. This gastric juice digests very well, artificially, after the addition of the proper quantity of hydrochloric acid, which shows that it contains pepsin, and that the impossibility of digestion is due solely to the absence of hydrochloric acid.

4. With the disappearance of the fever, or somewhat later, the gastric juice becomes capable of digestion both within and outside the organism.

In regard to the chronic febrile diseases, normal, digesting gastric juice exists during the fever.

Other things being equal, the nature of the gastric juice in febrile diseases is influenced more by the nature of the injection than by the high temperature. The possi-

bility of a secretion of active gastric juice in chronic febrile diseases increases the hope of good results from forced feeding. *Deutsches Archiv f. Klin. Med.*, Bd. 42, Hft. 5.

Creasote in Pulmonary Phthisis.—Dr. Beverley Robinson has an interesting communication on this subject in the January, 1889, number of the *American Journal of the Medical Sciences.* He began to use the drug in pulmonary phthisis soon after the publication, in 1877, of an article by Bouchard and Gimbert on its beneficial effects in consumption. He calls attention to the fact that what is called "commercial creasote," obtained from the distillation of coal-tar oil, and having neither the color, the odor, nor the chemical properties of *wood* creasote, should not be used. The best creasote is that obtained from the distillation of *beechwood-tar.* Possibly many of the cases in which creasote has proved inert were cases in which the coal-tar product was used.[1]

As to whether creasote interferes with the bacilli locally, or through the circulation in virtue of its antiseptic properties, or whether, in addition to its promotion of sclerosis, it merely favors general nutrition whilst acting happily upon secondary, though important symptoms, Dr. Robinson is not prepared to affirm, but he is inclined to accept the latter rather than the former theory.

At the beginning of treatment creasote should be taken in small or moderate doses, which should be continued a long time, or only gradually increased. The daily amount prescribed by Dr. Robinson for adults has varied usually from 3 to 6 minims, and continued frequently many months without increase, or interruption, or any evidence of intolerance. The ordinary dose of half a minim is repeated every two or three hours. It is given with whisky and glycerine, according to the following formula:

Creasote (beechwood)	♏vj
Glycercini	℥i
Spts. frumenti	℥ij
S. as directed.	M.

In hospital practice, for convenience' sake, or rather so as to give the patient a sufficient supply of medicine to last till his next visit, he prescribes teaspoonful doses, each teaspoonful containing one minim of creasote, and to it are added two teaspoonfuls of water, which prevents irritation of the throat in swallowing the dose, and obviates irritation of the stomach in some cases. The dose is ordered every three hours, so that if taken with absolute regularity the patient gets eight minims of creasote in twenty-four hours. The whisky and glycerine should be perfectly pure, Price's or Bowers' glycerine being probably the best.

Dr. Robinson has frequently prescribed creasote in gelatine capsules combined with cod-liver oil. Each capsule contains about a minim of creasote. They should be taken fifteen or twenty minutes after meals. Two or three doses mark the limit of stomach toleration ordinarily, and in only one or two cases has he been able to increase this number without causing digestive disturbances. This method of administering creasote appears, therefore, to be inférior to the whisky and glycerine mixture. If creasote be administered in cod-liver oil, the amount of oil must be at least one drachm to the minim of creasote, in order to obtain a proper dilution of the drug. Otherwise, if cod-liver oil be indicated it is best to give it separately.

In a large proportion of cases of phthisis that he has treated during the last year or two (and in all of the cases herein analyzed), whilst creasote was taken internally, Dr. Robinson also used antiseptic inhalations by means of the perforated zinc inhaler. As a rule, in the beginning

[1] Dr. Robinson says he is credibly informed that the only creasote in the market that responds favorably to all or most of the tests of absolute purity is that of T. Morson & Son, an English product, and that of Merck, of Darmstadt.

the inhaler was worn during fifteen or twenty minutes every three hours, and from ten to twenty drops of the inhaling fluid were poured on the sponge of the inhaler at least three times in 24 hours.

The inhaling fluids most frequently used were:

1. Iodoformi.....gr. xxiv
   Creasoti.....mlv
   Ol. eucalypti.....mlviij
   Chloroformi.....mlxlviij
   Alcoholic ætheris q. s.....℥ss. M.
2. Tinc. iodi ætherealis.....
   Acidi carbolici.....aa ℥ij
   Creasoti.....℥j
   Sp. vini rect.....ad. ℥j M.
3. Creasoti.....℥i
   Alcoholis.....ad. ℥ss M.

The total number of cases to which Dr. Robinson gave creasote mixture and creasote inhalations (simple or compound), were 143 at the New York Hospital, 19 in private practice, and about 150 at St. Luke's Hospital. Of the 143 cases seen at the New York Hospital, 51 were in the first stage of the disease; 18 in the second stage; 18 in the third stage; also 4 cases of laryngeal phthisis, 1 case of fibroid phthisis, and 1 case of acute phthisis; leaving 50 cases in which the stage of the disease is not mentioned. Of the 143 cases, 54 were females and 89 males. Of the 93 cases in which the stage and nature of the disease were mentioned, the duration of treatment in 66 cases (47 hospital and 19 private) varied from one week to two years, eleven months and a half; 45 of these were males and 21 females; 37 cases were affected with the first stage in a manifest manner; in 3 cases the physical signs were doubtful or negative; in 6 there was an evident second stage; and in 1 it was questionable whether the disease had advanced so far as the second stage; in 11 cases the disease had reached the third stage.

In cases of the first stage, 24 had their cough improved, sometimes very much, sometimes only a little; in 3 cases the cough did not improve; in 10 cases the cough was cured. In several cases in which the cough was improved, the sleep was quieter, and previous insomnia evidently depended largely upon cough and expectoration; in a few cases, even though the cough improved, the sleeplessness did not improve, and was evidently independent of the cough. In 3 cases, at the second stage, cough improved either slightly or very much. In the other cases it remained stationary; in no case did it increase. In 6 cases, at the third stage the cough improved notably in 4; in 1 the improvement was very great; in 1 it became worse.

As regards *night-sweats* in the first stage, 8 cases were cured, 4 improved, 3 remained stationary; in 1 case they increased; in 6 cases the patients never suffered from them; in 15 cases no mention is made of the symptom. At the second stage 1 was cured, 1 remained stationary. At the third stage 1 case was cured, 2 improved (1 greatly), 1 patient had no night-sweats, and in 7 cases no mention was made of them.

In the majority of cases in which there was dyspnœa, this was improved or cured under the creasote. The same is true in regard to the sputa and the appetite.

The effect on the weight was very noticeable in many cases. Two, three, and four pounds increase was quite common. One patient gained three pounds in six weeks. Most of the cases gained weight; in only 6 was there loss of weight.

As regards hæmoptysis, it was seen that whilst creasote may not, except to a very limited extent, control pulmonary hæmorrhage, it does not promote nor occasion it, and may be given with perfect safety to patients liable to hæmorrhage, and during the period that they actually occur.

In regard to the effect on the temperature, Dr. Robinson says it is fair to assume that in creasote we have an antithermic

agent of no mean value in the treatment of phthisis.

Dr. Robinson concludes his paper by saying that he is convinced that we have in beech-wood creasote a remedy of great value in the treatment of pulmonary phthisis, particularly during the first stage. Not only does it lessen or cure cough, diminish, favorably change, and occasionally stop sputa, relieve dyspnœa in many instances; it also often increases appetite, promotes nutrition, and arrests night-sweats. It does not occasion hæmoptysis, and rarely causes disturbance of the stomach or bowels, except in cases in which it is given in too large doses. It is certainly an unobjectionable medicament from any point of view. It is easy of administration; it is adapted to the majority of sufferers from pulmonary phthisis everywhere; it may be used with some advantage at all stages of this disease, even the most advanced, and in my experience it has proved itself superior to any other medicament with which I am familiar.

Puerperal Insanity of Septic Origin.—At the meeting of the Medical Society of London, on Dec. 3, Dr. Savage read a paper on this subject, in which he insisted upon the frequent correlation of puerperal fever with puerperal mania, The ordinary form of puerperal insanity, he said, was quite common, and from 8 to 10 per cent. of all cases met with in hospital practice were due to this cause. When it was considered that a large proportion of the cases were treated at home, the total would seem to be somewhat formidable. Puerperal insanity was less curable, he said, than it was generally believed to be. About 5 per cent. of the acute cases proved fatal, and no less than 20 per cent. remained permanently afflicted. When of septic origin the malady most frequently took on the acutely maniacal form, and most of the fatal cases were of this kind. He pointed out that neurotic persons, curiously enough, seemed more liable to septic changes, the determining causes being various. He related the cases of three sisters, all of whom fell victims to the same form of septic mania at intervals of some months.

Dr. Barnes said that obstetricians saw the beginnings, but missed the sequel. Heredity, he said, was the great predisposing cause. As to the evocative causes—blood diseases and such like—he said that Dr. Savage had not drawn a line of demarcation between the mental disturbance occurring during pregnancy, and that which broke out during lactation. It was very important to distinguish between them. Albuminuria was common. The patients had a condition of high vascular tension to which the albuminuria was often due. Then there followed a stage of depression, when the septic symptoms became more marked. In cases that he had seen after labor, anæmia was marked, as was toxæmia from other causes. He said that the liver of a puerperal woman was always fatty, thus increasing the difficulty of disposing of the post-puerperal metabolic products. Emotional shock was a powerful influence in the production of sepsis. Exhaustion was also a factor. He had seen insanity cured by replacement of a displaced uterus.

Mr. Knowsley Thornton said he had had several cases of marked insanity after important abdominal operations. He suggested that the marked acceleration in the pulse, which was considered of such ill-omen in these cases, might be due to septic causes, the other symptoms being masked by the mental condition. He explained the albuminuria, which was often present, to be due to the acute congestion of the kidneys, caused by the elimination of the poison.

Dr. Symes Thompson said there could be no doubt that the susceptibility of puerperal women was largely due to the prostration. Under such circumstances sepsis was more readily induced.

Dr. Savage said that statistics seemed to point to a preponderance of cases among the upper classes. He said there was no more danger to reason from puerperal mania than from the delirium of fever. He preferred a tonic treatment.—*British Medical Journal*, Dec. 8, 1888.

Strychnine as an Antidote in Narcotic Poisoning.—Dr. G. A. Gibson calls attention to the treatment of the effects of narcotic poisons by using strychnine to avert the paralyzing action of such drugs on the medullary centres. Narcotic drugs in lethal doses cause death by paralyzing the respiratory centre. In the cases of narcotic poisoning that have come under Dr. Gibson's notice during the last three years strychnine has been used hypodermically, when there was any irregularity or interruption of the breathing that appeared to threaten a failure of the respiratory centre. The effect of the drug is immediately shown by the increased rate, more regular rhythm, and greater depth of the respirations, and even in cases in which the breathing had ceased, it began again after the administration of strychnine.

In the treatment of poisoning by narcotics, says Dr. Gibson, two things should be studiously avoided: 1. Making the patient walk, and flogging him, to keep him awake. Such treatment has a tendency to exhaust the vital powers. 2. The use of alcoholic stimulants, which aid the action of narcotics.

The patient should be kept in the horizontal position, the respiration is to be carefully watched, and should there be the least sign of irregularity, or shallowness, or inequality in the breathing, gr. $\frac{1}{150}$ or $\frac{1}{50}$, according to the age of the patient, of sulphate of strychnine should be given subcutaneously, and may be repeated at intervals of an hour two or three times. If, notwithstanding this, respiration becomes very feeble, or ceases entirely, artificial respiration must be begun promptly. If the circulation threaten to fail in consequence of the poison affecting the motor mechanism, or of spasm of the arterioles caused by deficient oxygenation of the blood, it should receive prompt attention. Strychnine may be used as a stimulant to the motor centres of the heart, and may be aided by the use of ammonia or ether. If artificial respiration has been thoroughly performed, there should be no spasm of the arterioles; but should there be any, nitrate of amyl must be used. Strychnine may be used also in cases of threatened failure of the respiratory centre, caused by the general anæsthetics.—*The Practitioner*, December, 1888.

Elastic Pressure in Mammary Inflammation.—At the meeting of the Royal Academy of Medicine in Ireland, Section of Obstetrics, on Nov. 23, Dr. Andrew Horne read a paper on this subject. He said that inflammation of the breast was almost always the result of infectious material gaining entrance through fissures and cracks of the nipple. The treatment advocated was to envelop the breast in a layer of absorbent cotton. Having first painted the breast with a 5 per cent. solution of oleate of mercury and morphine, an elastic web bandage is used to make gradual and equable pressure over the inflamed gland, thereby securing the most perfect rest possible.

Dr. Macon said that he had long used compression of the breast in certain cases, though he did not regard it as suitable where there was suppuration; but he could recommend Dr. Horne's method, even where there was suppuration, as strongly as in other cases. It gave great relief to the patient. In certain cases it would permit the woman to go on nursing, which, in case of the poor, was a great advantage. It seemed specially applicable in the troublesome form of the affection in which, though the breast was enormously distend-

ed, and the skin quite tight, not a drop of milk would flow.

Dr. Smyly said he used to employ Martin's bandages, but he believed Dr. Horne's arrangement to be much better. One of its best features was the covering up of the breast, thus preventing external infection. He believed one of the causes of mammary inflammation was the handling of cracked nipples by the midwife, whose fingers are not always aseptic.

Dr. Horne said that it was most difficult to put on elastic plasters so as to get even pressure, and they are apt to cause an eczematous eruption on a tender skin. The Martin's bandage causes an uncomfortable heat, which the elastic web bandage does not.—*British Medical Journal*, Dec. 8, 1888.

Quantitative Estimation of Uric Acid.—Dr. August Herrmann has recently reported the results of some experiments with Haycraft's method of estimating uric acid, which is based on the fact that nitrate of silver is very insoluble in water and ammonia. The urine is first treated with bi-carbonate of soda, is then made alkaline, and ammoniacal solution of silver is added. The precipitated urate of silver is collected on an asbestos filter, and washed. It is then treated with nitric acid, by which it is dissolved, and in the filtrate thus obtained the silver is estimated by Volhard's method; and from the amount of silver found the amount of uric acid can be calculated. Dr. Herrmann has slightly modified this method: he used a large quantity of urine, and added magnesia in addition to bicarbonate of soda; he treated the wash-water with hydrochloric acid instead of a solution of common salt. He compares Haycraft's method with Ludwig's method: in the former two analyses gave the same result; in the latter there was a difference of + or — 0.00038 grain; in the former the results were somewhat higher, on an average 0.0029 per cent., probably due to a precipitation of xanthin by the silver. The constant error in both, estimated by using pure uric acid, is — 2 per cent. He found that sugar and albumin interfere very slightly with Haycraft's method, and need not be separated before estimation. Though this method gives, as compared with Ludwig's, too high a result, yet for comparative and clinical purposes, where a knowledge of the variation in the amount of urea present is sought, it is to be preferred on account of its practicability and the short time required for its performance.

Treatment of Syphilis.—Professor Edward Lang considers metallic mercury the sovereign remedy in the treatment of syphilis. Internally he recommends:

Lanolin mercurial ointment (50 per cent.)	3 grams
Milk sugar	7 "

Make 60 pills. Take from 4 to 6 pills a day.

Lang recommends Unna's mercurial plaster, especially in the treatment of syphilis in children. A part of the surface of the body should be covered for from 4 to 6 days, and after this another part of the body.

In order to prevent eczema, gray plaster should be used, made as follows:

Olei crudi	180
Plumb. oxydat	100
Hydrargyri	60

For subcutaneous injection Lang thinks gray oil best, prepared as follows: 5 grams of lanolin are dissolved in 20 grams of chloroform, and 10 grams of mercury should be rubbed up with this until the chloroform disappears.

Lang recommends the following formula for using calomel:

Calomel	
Lanolin aa	2.7
Olive oil	4.6

Lang considers subcutaneous injections of calomel and gray oil better than inunctions.—*Internat. Klin. Rundschau*, No. 51, 1888.

Water in Obesity—Lorenzen, of Erlangen, has made some experiments on himself in regard to the influence of liquids on obesity. For a period of nine years he drank daily a large quantity of Erlanger beer. For four years of this period the quantity consumed daily amounted to 10 litres, or about 22 pounds; during the remainder of the period the quantity was between 5 and 7 litres, with 1 litre of wine. In this way he succeeded in increasing his body weight by 78 pounds. On shutting off the liquids his weight fell 14 pounds in 7 days; but when more water was taken, even without alcohol, the weight again increased. Within five weeks he reduced himself 28 pounds. Similar experiments, carried out on some of his heavy colleagues, gave similar results. Lorenzen explains the disappearance of fat, when fluids are withheld, on the hypothesis that the cells whose province it is to decompose albumen, when a large quantity of fluid is taken, now expend a part of their energy in the combustion of fat.—*Medical Press—The Sanitarian.*

Jumbul in Glycosuria.—Mr. George Mahomed, of Bournemouth, records his first experience with jumbul (or jambul), in diabetes. The patient was a man about 60 years of age, and had had diabetes about nine months, to his own knowledge. The urine had a specific gravity of 1020, and contained a considerable amount of sugar. He was put on *perles* of jumbul, a two-grain *perle* three times a day. At the end of a week the urine contained no sugar. On the drug being discontinued the sugar reappeared, and disappeared again when the jumbul was resumed. As the patient experienced considerable temporary depression, the quantity of jumbul was diminished to two *perles* a day, on alternate days. Nearly four months after the first visit the urine still contained no sugar, and after more than a year the patient believes that he is cured.—*Practitioner*, December, 1888.

Yeast in Infectious Diseases.—In a recent number of the *Deutsche Medicinische Wochenschrift* attention is drawn to the use of yeast in the treatment of certain diseases. In an epidemic of scarlatina and diphtheria it was employed to the exclusion of every other medicament. The scarlatina cases developed without complication, and with an ordinary amount of fever, while in the diphtheria cases the false membrane rapidly separated, and lesions of the heart and paralysis of the muscles did not supervene. The mean dose was one teaspoonful every hour. Gargles of yeast, also, in the proportion of one part of yeast to five of water, were found to be of service. The yeast does not cause diarrhœa; in fact, it may be recommended in the diarrhœa of infants.—*Medical Press and Circular*, Nov. 14, 1888.

Treatment of Typhlitis.—Bouchard recommends the following plan of treating typhlitis: 1. Alleviate the pain, either by injections of morphine or the application of belladona ointment under a hot poultice. 2. Wash out the large intestine by copious hot enemata, consisting of at least a quart of hot water in which ʒjss of borate of sodium is dissolved, or to which two or three teaspoonfuls of a mixture of equal parts of tincture of benzoin and spirit of camphor is added. 3. The patient must be kept absolutely quiet. 4. Only the mildest kind of purgatives, if any at all, should be used. 5. Food should consist of milk diluted with alkaline waters, with the yolk of an egg at a later period.—*France Médicale*, Sept., 1888.

Antipyrin in Chorea.—Hajos injects hypodermically a 50 per cent. solution of antipyrin in chorea, beginning with ♏vijss and doubling the dose daily until gtt. 60 are given at one injection. He uses antipyrin also in intercostal neuralgia.

EDITORIAL.

PYRODINE, A NEW ANTIPYRETIC.

In the *Medical Chronicle*, of November, 1888, Dr. Dreschfeld reports some interesting clinical observations on pyrodine [which should be spelled pyrodin]. He has used it in various forms of fever. It was given in 12 cases of croupous pneumonia. It quickly reduced the temperature, and in three cases there was no further rise after the first administration. In the other 9 cases the reduction lasted over 12 hours. The dose varied from 4 grains in children to 12 grains in adults. All the patients bore it well. Profuse sweating accompanied the reduction of temperature. Of the 12 cases 11 recovered. The fatal case was moribund when admitted to the hospital.

The drug was tried in 25 cases of scarlet fever, in which the initial temperature was very high. The effect in these cases was very good. The temperature was quickly reduced, sometimes below normal, without any unpleasant symptom, such as prostration or collapse, being produced. It was not found that cases that took the drug were more liable to suffer from post-scarlatinal nephritis. Recurrence of high temperature was quickly allayed by repetition of the pyrodin.

In 20 cases of typhus fever the results were highly satisfactory. Given in small quantities, one or two doses a day, pyrodin reduced the temperature, and enabled the patient to pass through the fever period with a reduced temperature. It gave the patients great comfort, diminished the delirium, and did not delay the crisis. The patients required but a small amount of stimulants, and their convalescence was very rapid.

In typhoid fever the toxic effects of pyrodin, which were manifested earlier than in any other disease, were an objection to its free administration. It reduced the temperature, but symptoms of aniline poisoning (jaundice, hebetude, occasionally sickness) came on, due to the action of the pyrodin on the blood; these symptoms were by anæmia.

Pyrodin acted well in two cases of migraine in which antipyrin had failed.

The results of Dr. Dreschfeld's investigation in regard to the use of this drug are summarized as follows:

1. It is a powerful antipyretic, reducing fever-temperatures quickly, and maintaining the temperature at a low level for some hours.

2. It is easily taken; but given in often repeated doses at short intervals, it easily shows toxic effects, which depend on its action on the blood, producing hæmoglobinuria. Unless the temperature be very high, it should not be given oftener than once in 18 or 24 hours, and its use should not be continued for more than a few days.

3. It produces marked perspiration, but no nausea, vomiting, nor collapse. The dose for children is from 2 to 4 grains; for adults from 8 to 12 grains.

4. It reduces the pulse as well as the temperature, and often causes diuresis.

5. It is a much more powerful antipyretic than antipyrin, antifebrin, or phenacetin, but it is more toxic than these bodies, and must be given less frequently.

EMERGENCY APPLIANCES ON RAILWAYS.

Anything that will contribute to the welfare and safety of the traveling public, and of the employés of the great transportation companies of our country, is usually readily adopted by the companies, when properly presented to them. The number of accidents is comparatively small, but the aggregate of damages paid by railway companies to injured employés and passengers is enormous. The loss of life and limb is much reduced by prompt arrest of hæmorrhage and thorough antiseptic occlusion of the contused wounds that usually result from railway accidents. These ends might be promoted by having in every railway

coach and station sealed packages of hæmostatic appliances and antiseptic dressings, wrapped in covers on which are printed pictured and verbal directions for their use. At the termini of each road, instruction in the use of these dressings and appliances could be easily given the train men by skilled persons. The unions and benevolent societies are directly interested in this matter. The train men are of unusual intelligence, and the interest they would take in such instruction would be increased by the knowledge that sooner or later they might very likely need the assistance they are taught to give. Many more employés than passengers are injured. With the former, injuries to the hand are the most frequent. It is well-known that the most terrible contusions of this extremity are rapidly repaired under antiseptic dressings, and the organ restored to a very fair degree of usefulness. Thus the State may be saved the care and expense of a useless, and perhaps a vicious citizen. It would be well to prepare such packages and place them in those stations and switch-houses about which statistics show that an unusual number of accidents are accustomed to happen. In this way their usefulness could be demonstrated, and the subject brought to the notice of those most concerned.

THE ACQUIRED ILIO-FEMORAL ARTICULATION.

Mr. W. Abuethnot Lane writes (in *Medico-Chirurgical Transactions, Vol. 53,*) of an undescribed method by which the superjacent weight of the body is transmitted in united or ununited fracture of the femur through an acquired ilio-femoral articulation and the bearing of the principle involved upon the surgery of the hip-joint.

In 320 subjects that he has examined he found several instances of fracture of the neck of the femur, in all of which but three union was complete. He was struck by the fact that in three out of the small number of these fractures, a very considerable portion of the superjacent weight of the body was transmitted to the femur by means of a very strong and dense process of bone, which projected from the front of the upper end of the femur, and articulated above by a flattened upper extremity with a corresponding quadrilateral depression situated immediately below the anterior inferior spinous process of the ilium, and encroaching to a varying extent upon this process. The opposing surfaces of bone, as well as the portions of bone immediately adjacent, were intimately united to one another by dense ligamentous tissue. The amount of pressure transmitted through this newly-formed articulation varied considerably in the three cases. In that in which the fragments had not united by bone, almost, if not the whole of the superjacent weight was transmitted through the acquired joint. In the two cases in which the fragments had united by bone the amount of weight transmitted by the head of the femur was considerable, in one case equaling, and in the other possibly exceeding that borne by the accessory articulation.

Mr. Lane directs attention to the immense mechanical advantages which the ilio-femoral articulation affords in cases of fracture of the femur in which there is much downward displacement of the head of that bone, and these advantages are especially obvious when the fragments move freely upon each other. He also calls attention to the manner in which this newly-developed articulation serves to diminish as much as possible the shortening of the limb both apparently and practically, to render it very much more useful than it would be without the pressure of such a powerful joint, and to reduce to a very considerable extent the deformity of the trunk, and particularly the extreme lordosis and unsteady gait that would otherwise ensue on the injury. He believes that the application of the knowledge of

this mechanism will enable us to make very considerable strides in the operative surgery of the hip-joint.

Take, for example, the operation of excision of the hip-joint. The most successful operation gives comparatively unsatisfactory results. Apart from the shortening, the chief reason of the comparative failure of this operation seems to be, that the divided upper extremity of the femur is left in apposition with the outer aspect of the ilium, to make for itself a most insecure and unsatisfactory connection with that bone, in a position in or behind the original vertical plane of the acetabulum. This new articulation, on the security of which the usefulness of the limb depends, allows of a gliding movement between the bones, the upper extremity of the femur rising vertically to a variable extent when the weight of the body is thrown upon the excised limb.

From an examination of the mechanism of this ilio-femoral articulation, developed in the case of ununited fracture of the femoral neck, it is obvious that if in the operation of excision of the hip-joint the upper extremity of the femur were displaced upwards, forwards, and inwards, and were attached or fixed in position to the anterior inferior spinous process and to the bone immediately beneath it, we should have formed an ilio-femoral aaticulation that would differ in no way from, and would serve its purpose quite as well, as did that described. The mechanical advantages gained by the formation of such an ilio-femoral joint in cases of excision are enormous. Instead of the usually very feeble joint that, when unsupported, cannot, except in very rare cases, support the weight of the body, we would have an articulation that would sustain nearly as much strain as the original, which would be accompanied by much less deformity of the trunk both in standing and walking; and the deficiency in the length of the leg could be readily compensated without increasing the upward displacement of the femur and diminishing still further the usefulness of the joint in connection with that bone.

INFLUENCE OF SALICYLIC ACID ON THE EXCRETION OF URIC ACID.

A year and a half ago Mr. A. Haig read a paper before the Royal Medical and Chirurgical Society of London in which he drew attention to the relation of a certain form of headache to the excretion of uric acid, showing that the headache in question coincided with a plus excretion of uric acid, and was possibly due to an excess of this acid in the blood. In a later paper, in the *Journal of Physiology*, Mr. Haig showed that alkalies, as soda and potash, always increase the excretion of uric acid, within certain limits, while acids such as muriatic, citric, and acetic, always diminish the excretion of uric acid. The contrary is true of salicylic acid, however; and it is now shown that this drug is of very great value in rheumatism and gout.

The action of salicylic acid is to dissociate the excretion of uric acid from its general relations to acidity, so that an increase of acidity, while there is plenty of salicylate in the blood, is accompanied by no diminution of uric acid excretion. It is known that acids play an important role in dyspepsia, gout and rheumatism; and if the salicylates will prevent these acids causing retention of uric acid, we can easily explain a large part of their action in these affections. So high an authority as Sir Alfred Garrod makes the distinct statement that "when a few glasses of wine, ale, or porter quickly and invariably produce in an individual an inflammatory affection of a joint, such inflammation is of a truly gouty character"; and there is little or no doubt that this gouty inflammation is due to hypersecretion of uric acid.

From Mr. Haig's experiments salicylate of soda does not appear to have any definite effect on the acidity of the urine, but it is

seen that the uric acid secretion is not influenced by the acidity in the usual way. It is shown, in a paper read by Mr. Haig before the Royal Medical and Chirurgical Society a year ago, and published in the *Medico-Chirurgical Transactions*, Vol. 53, that under salicylate, uric acid excretion is not kept down by rise in acidity, but rather the reverse; and that a large excess of uric acid excretion, when it occurs under salicylate, is not accompanied by headache. To these facts must be added several others: Brunton has shown that salicylate of soda is a valuable remedy in headache; we know also that some form of salicylate is a relief to the pains of acute rheumatism, and prevents or relieves the pains and discomforts of some phases of gout. We know again that it is the headache of persons with a gouty tendency that is most frequently and easily relieved by salicylate, and it is reasonable to infer that the headache relieved by salicylate is an expression of so-called "quiet gout." Thus it appears that these headaches are due to hypersecretion or excretion of uric acid.

If we accept the statement of Latham that salicylic acid combines with glycocine and passes out in the urine as salicyluric acid, and if we suppose that salicylic acid has the power of splitting up uric acid and combining with its glycocine so as to form salicyluric acid (as benzoic acid does to form hippuric acid), we are on the road to an explanation of the reversal by salicylate of the usual action of acidity on the excretion of uric acid. What we know of the chemistry of salicyluric acid leads us to suppose that it is more soluble than uric acid, both in the tissue fluids and in slightly acid solutions; peculiarities that are sufficient to explain the altered relation of uric acid excretion to acidity under salicylates. Both hippuric and salicyluric acid, there is reason to believe, are far more soluble in water than is uric acid, and also more soluble in water containing hydrochloric acid. Now, if when we administer salicylate the uric acid in the blood and tissue fluids is converted into salicyluric acid, we have to deal with a substance far more soluble in those fluids than is uric acid, and also more soluble in slightly acid fluids; and if change of solubility be the true explanation of the action of acids and alkalies on uric acid excretion, the results obtained with the salicylates—that a rise in acidity no longer entails a fall in uric acid excretion—are easy of explanation.

Mr. Haig believes that, as in the case of alkalies, salicylic acid acts on the uric acid supposed to be stored in the liver and spleen, and, its solubility being increased, it rushes at once into the blood and out of the system through the kidneys. This rush into the blood under the action of the salicylates is not accompanied by headache, thus differing from the rush under the alkalies; so that there are reasons for believing that the chemical combination in the blood of uric acid and the salicylates is different from that formed between uric acid and alkalies.

In a paper read before the same society last April, Mr. Haig contrasts the above-mentioned action of the salicylates with that of several drugs that cause retention of uric acid. It is shown that lead, taken as the acetate, causes clearly and distinctly retention of uric acid. Iron, also, causes retention of uric acid, though not so quickly as the lead salt. Sir Alfred Garrod says that urates of lead and iron are quite insoluble, which fact may explain their action in causing retention. Lithium and the lithia salts have enjoyed a high reputation for several years in gouty and rheumatic affections—in the uric acid diathesis, though they have, unexpectedly and in an unwelcome manner, shown themselves completely inert in many cases. Its urate is extremely soluble, but from Mr. Haig's experiments there appears to be no doubt that it causes retention of uric acid. Mr. Ure pointed out in 1860 that lithia was no use as a solvent of uric acid when taken

by the mouth. Carbonate of lithia had been recommended in the treatment of vesical calculus; but Mr. Ure pointed out that it would undergo decomposition and precipitation when coming in contact with ammonia-phosphate of soda, and thereby be rendered inert. Given internally it forms a nearly insoluble triple phosphate with phosphates of acids, or with the triple phosphates of ammonia and soda—salts that are generally present in animal fluids. Lithia taken internally, therefore, never reaches the uric acid to form a soluble urate of lithia, but, on the other hand, by forming an insoluble compound with phosphate of soda, it practically removes from the blood one of the well-known solvents of uric acid. If it be desired to give lithia for any special reason, one-drachm doses of sodium phosphate should be given three times a day, in order to supply the place of the sodium phosphate removed by combination with the lithia, thus preventing the lithia causing any retention of uric acid. But it is just as well not to use lithia.

The connection between lead-poisoning and epilepsy has been regarded as rather mysterious. But knowing that lead causes retention of uric acid, and that epilepsy may be caused by retention of uric acid, the apparent mystery is cleared up. Some cases of epilepsy yield uric acid reactions identical with those obtained in some cases of headache; and if some headaches are due to uric acid retention, it is likely that some epileptic attacks are also due to such retention, and can be prevented like the headaches by treatment directed to the uric acid factor. There is a distinct clinical relationship of epilepsy both to headache and gout. All epileptic fits are not due to uric acid; but it is probable that it will be shown that the cases of epilepsy that have a marked family-history of gout, rheumatism, headache, or epilepsy, will give uric acid reactions, and may be cured by treatment directed to the uric acid factor, as in the case of the corresponding headache. It is in these cases of epilepsy that lead and iron will do harm, and the salicylates may be expected to be beneficial.

As may be seen, Mr. Haig's suggestions are far from being empirical, and the field that he has opened is certainly worth the working. It is certainly a significant fact that the vegetable diet that Mr. Haig has found so useful in headaches due to uric acid has been found most beneficial in some cases of epilepsy. His suggestions are partly borne out by Radcliffe's observation, that by giving iodide of potassium and bicarbonate of potassium with bromide, he was able to give less bromide in cases of epilepsy. Radcliffe is very emphatic as to the disadvantages of associating iron with drugs given in epilepsy.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

Dr. N. S. Davis, who has been the editor of the *Journal of the American Medical Association* since its foundation in 1883, resigned the editorship some months ago, his resignation taking effect on January 1. The Board of Trustees of the *Journal* elected Dr. John B. Hamilton, Surgeon-General of the U. S. Marine Hospital Service, as editor, and he has arrived in Chicago to take charge of the *Journal*, having been granted leave of absence by the Treasury Department.

There is an erroneous impression that the office of publication will be removed from Chicago; it will remain in this city.

BRAIN WEIGHT AND INTELLIGENCE.

He does science a favor who dispels the least of still existing scientific superstitions. A scientific superstition has long prevailed in regard to the weight of the brain as compared with the weight of the body in man and other animals. Most physiologists hold that the weight of the human brain is one-fortieth of that of the body, and that such a proportion is not attained by any other

animal. This flattering superstition is dispelled by some recent investigations of Dr. Joseph L. Handcock (*American Naturalist*, XXII. p. 537, June, 1888) on the weight of the body and brain of birds. He finds that in the smaller and more intelligent birds the weight of the brain rises to one-thirteenth that of the body in *Stetophaga ruticilla* (American redstart), and to one-seventeenth in *Regulus calendula* (ruby crowned kinglet) and *Parus atricapillus* (black capped chickadee); and in the larger and more sluggish of the tribe it often remains higher than in man or any carnivora.

SOCIETY REPORTS.

CHICAGO MEDICAL SOCIETY.

Regular Meeting, October 6.

The President, J. H. Etheridge, M.D., in the Chair.

Dr. Bayard Holmes reported a case of Gastronomy, which appeared in The Journal and Examiner.

Dr. James G. Kiernan read a paper entitled

MENTAL SYMPTOMS AFTER SURGICAL PROCEEDINGS.

Under the title "delirium traumaticum nervosum" the older surgeons described a number of mental symptoms which made their appearance after surgical operations. These symptoms usually consisted of great motor agitation, visual and auditory hallucinations, excessive loquacity, and exceptionally the delirium was of a stuporous type, and still more rarely, the symptoms were of a very violent type. The patient generally made a rapid and full recovery. Exceptionally death resulted from the delirium, and still more exceptionally the patient remained permanently insane.

Scheede reported many cases due, he claimed, to iodoform; others were charged to carbolic acid, and still others to mercury bichloride. There was no great improbability in this etiology, for the mental phenomena were such as these agents do produce. Cases occurred, however, where the influence of antiseptics could be excluded. Then the symptoms were charged to blood poisoning, but in the majority of instances there was no evidence of this. This complication has been observed in 80 cases after various surgical procedures, according to a not very thorough research I have made of the literature. Thirty cases occurred after cataract operations. Thirty resulted after gynæcological procedures. The remainder resulted from plastic operations, amputations, dental procedures, etc. In 15 cases there was larvated epilepsy precedent to the operation. In 10 hysteria major was present. In 15 cases a neurotic element existed. In 25 cases the patients had arrived at periods of involution when instability of the nervous system usually results. In 6 cases the influence of blood poisoning was demonstrated.

The prognosis in the larvated epileptic cases was good so far as the mental phenomena was concerned. The same is true of the neurotic and hysterical cases. In some of the cases occurring at the period of involution senile degenerations were precipitated. The majority of the blood poisoning cases died. As a rule the type presented was that of acute confusional insanity. Ordinary epileptic and hysterical insanity resulted in cases of larvated epilepsy, and hysterical insanity in hysterics. Typhomania at times occurred.

According to certain estimates, about 2 per cent. of the gynæcological procedures and the same per cent. of cataract operations are followed by psychical symptoms. The etiology is clear in most cases. The antecedent conditions of the patient as to age and constitution act as a predisposing cause. The mental agitation precedent to the operation is a direct exciting cause.

The moral treatment of the patient an-

tecedent to operation, supplemented by proper medicinal treatment, is the best prophylaxis. Sedatives and other measures tending to calm agitation are necessary. In most of these cases conium is indicated. Opium, and not chloral hydrate or the bromides, will, as a rule, be found of most value in a majority of cases. In hysterical and epileptic cases these latter remedies are indicated. In many of the hysterical cases salix nigra and monobromate of camphor give good results.

DR. WILLIAM AXFORD: I have observed this condition once or twice in old people. Last March I did a supra-pubic cystotomy and removed an enlargement of the prostate from an old gentleman of 79. For four days after the operation he was in a peculiar condition of delirium; there was no rise of temperature, no chill, nothing like sepsis, in point of fact it was an active delirium. The old gentleman was very smart; and he afterwards told me he had lost those four days entirely. I have always thought the condition was due to the influence of anæsthetics on the brain, but Dr. Kiernan informs me that the older physicians observed this phenomenon before anæsthetics were used.

DR. J. H. ETHERIDGE: During the month of June last, I took care of a woman in confinement; in the last of it ether was administered for three-quarters of an hour and delivery was effected with the forceps. The labor was particularly severe in every way and considerable laceration took place. After that etherization, she was delirious, and was not at all herself afterwards. She slept when night came, but throughout the whole of the time after that, while she lived, there was a sort of stilted, exalted condition of politeness about her that was entirely foreign to her. She ran along through the three days, so far as her puerperal condition was concerned, without a symptom arising, and on the fourth day she died, apparently from heart failure. I suppose this case would come under this head.

DR. JAMES G. KIERNAN: With regard to Dr. Axford's case, I remember on one occasion seeing a very similar condition result from the passage of a catheter in an old man who had some prostatic difficulty. The catheter was passed by a surgeon of considerable skill who became considerably alarmed at the denouement. The man passed into a state of exaltation and was difficult to manage; he insisted on going out and attempting to run a race. There is very little doubt that old men about the period of sixty are very easily upset by operations of this kind.

DR. ARTHUR R. REYNOLDS exhibited an

ACEPHALUS FŒTUS,

given birth to by a primipara, 21 years of age, at full term of utero-gestation. When called to the patient, I found she had been suffering moderate labor pains for about 24 hours, the abdomen was greatly distended, the os was fully dilated, and the membranes were well down in the vagina. I ruptured the membranes, passed my finger through the opening and found the fœtus floating freely in the amniotic fluid. The character of the presenting part at once arrested my attention. I was quite undecided whether I had a head or a breach presenting, but was inclined to think it was the breach. While pressing the examination, the fœtus made a violent and startling convulsive movement, and afterward continued to do so every time I touched the presenting part, the cause of which I did not recognize until after the labor was completed. The quantity of amniotic fluid was very large. It flooded the bed and ran down on the floor. After the water had escaped the uterine contractions became strong and expulsion was completed in half an hour in the second position. Notwithstanding the activity of the fœtal movements I found, to my astonishment, that the child was still-born. The cord was small and pulseless and there were none of the ordinary signs of asphyxia.

The fœtus measures fourteen inches in length and weighs three and a half pounds. The rudimentary and brainless head rests immediately upon the shoulders, there being no neck whatever. The cranium and spinal cord are open as far down as the second or third dorsal vertebra, a condition that is characterized by the term deranencephalia. The fœtus is plump and well developed with broad shoulders and well rounded trunk and limbs, and it is of the female sex, all of which is the rule with this class of monstrosities.

The convulsive movements that startled me so in the beginning of the second stage, were evidently produced by my finger pressing directly on the stump of the brain and eliciting one of the signs of the acephalic fœtus. It was by this sign that Cazeaux was enabled to diagnose a fœtus of this kind before the membranes were ruptured, to the astonishment of the students at the clinic where the labor occurred. That the child should be born dead, when it was certainly alive half an hour before, excites a query as to the cause. Although my manipulations were by no means severe, I incline to the belief that death was caused by the pressure of the fingers upon the nerve centers.

Dr. S. V. Clevenger: I remember ten years ago Dr. Roler described an anencephalic monster which he had delivered. He said he believed during delivery that from the rebound every time his finger touched the os, he had a monster of that kind in utero, because he had been just reading an article, in the *American Journal of Obstetrics*, of a similar instance. It is an important diagnostic indication.

Dr. S. V. Clevenger read a paper entitled: *The Origin of Sexual Perversions.*

Dr. J. G. Kiernan read a paper entitled: *Sexual Perversion as Illustrated by the Whitechapel Murders.*

Dr. Arthur R. Reynolds, reported

A CASE OF SEXUAL PERVERSION—

that of a man who could have sexual relations only with women who had lost the right leg.

Dr. J. W. Nelson reported

A CASE OF SPONTANEOUS PYÆMIA.

I have entitled this paper "A Case of Spontaneous Pyæmia." The title should, perhaps, be followed by an interrogation point: *First:* Because some writers doubt that pyæmia can originate without a previous lesion of some kind: and, *Second:* Being unable to hold an autopsy (for the patient died), I was unable to confirm my diagnosis by finding multiple abscesses, or other signs of embolism that are usually present. I think, however, that the case was undoubtedly one of pyæmia, and if there is such a thing as spontaneous pyæmia, this would come under that head, for there was no history or sign of wound, bruise or injury of any kind. I submit the case not merely to put it on record, but to emphasize the necessity of care in diagnosticating between such cases and acute articular rheumatism. For I was obliged to make a second diagnosis, and that is an unpleasant thing to do when your patient is in *articulo mortis.*

On August 8, 1888, I was called to see a boy seven years old, August P.; parents illiterate Germans; sanitary surroundings none of the best. I found him suffering with swollen joints, both ankles swollen, the right especially so. The left hip-joint was affected, the swelling being marked in the groin. The boy also complained of pains in the elbows and shoulders, but there was no perceptible swelling. Pulse, 140; temperature, 105 Fahr.; skin hot and dry; tongue moderately coated with light brown coat; respiration, normal. On inquiry of the parents, I found that four days previously the child, without prodromal symptoms, complained of chilliness, and that was followed by fever, and lameness and swelling of the ankles. The child had, according to their statement, been

perfectly healthy up to that time. About a week prior to the attack he had fallen into the lake and had afterward played all day in his wet clothes. During the first three days of the child's sickness, his bowels had been constipated, so the mother said, and she had given some Ayer's pills that had produced two copious and offensive stools. On the fourth day, the child being no better, the parents had sent for me, as above stated.

I made a diagnosis of acute articular rheumatism, ordered a tepid sponge bath, for the sake of cleanliness, then wrapped the swollen joints in cotton-batting, gave salicylate of soda, 5 grains, every two hours, and an opiate to relieve pain. On the following day I found the patient apparently improved. Pulse 115; temperature 103; perspiring moderately. To relieve the sensitiveness of the swollen joints, I ordered them rubbed gently with composition chloroform liniment, which was occasionally varied with an ointment composed of ℥ij. of camphor chloral, ℥j. of lanolin. Under this treatment the pain and swelling subsided, with the exception of the right ankle which still remained much swollen and œdematous, the skin pitting on pressure; the pulse averaging 110 and the temperature ranging from 100 to 101. The color of the skin was almost natural over the swollen joints, being only slightly redder than normal.

On the fourth day of treatment, the patient complained of a dull pain in the region of the heart. Careful auscultation failed to detect any cardiac trouble or signs of pleuritic affection, but I ordered a mustard paste placed over the region of pain, which seemed to relieve it and the patient made no more complaints. The patient had occasional attacks of epistaxis. On the fifth day of treatment, the patient complained of nausea following the administration of the salicylate of soda. I lengthened the intervals between the doses from two to four hours and gave him tincture chlorid iron, 10 gtts. every four hours, alternately with the salicylate. On the fifth day of treatment found the patient more lively, wanting to sit up in bed. Every day during my attendance there had been a slight rise of temperature in the evening. On the sixth day, ordered the salicylate discontinued in the afternoon and in its place a 5-grain dose of antipyrin.

On the following day, the seventh of treatment and the eleventh from the inception of the disease, I was sent for in great haste with the message that the boy was worse and that there was a "hole in his leg." I went immediately and found the child in a moribund condition, unconscious, pulse 160 and almost imperceptible at the wrist. Respiration rapid, a forced long-drawn inspiration and short expiration; temperature in axilla 114. On turning back the bed-clothes found them saturated with a thin sanious pus, and about three inches above the right external malleolus an opening through which the pus had made its escape. The child died about twenty minutes after I arrived.

On inquiry found that the boy had taken his supper sitting in bed. During the night he became restless and slightly delirious; as the morning came on his fever increased, till at eleven o'clock he became unconscious with peculiar labored breathing. The parents, being stupid, allowed this to continue an hour before sending for me. During the whole course of the disease there was no skin eruption and up to the sixth day no signs to give a suspicion of suppuration around the swollen joints. A careful examination of the beginning of the treatment failed to find any bruise or injury of any kind that might give rise to suppuration and then cause pyæmia.

DR. J. R. BRANDT exhibited a specimen of

BILIARY CALCULUS.

This calculus was passed by Mrs. B. on May 28, 1884. She weighed 250 lbs., height 5 feet 10 inches, age 55 years.

Menstruation ceased at 48; she had never had jaundice, but had suffered from constipation all her life. This calculus weighed 4 ounces and 15 grains, measures 4 inches in circumference one way and $3\frac{3}{4}$ another way; it now weighs 3 ounces and 5 grains. It consists of cholesterin with dark bile pigmentation at one end; there are three facets at one end and one large one at the other. The lady was treated five months previously for a similar attack, which was diagnosed as malaria, at which time I think she passed the portion attached to the largest facet.

Gall-stones are not a frequent cause of intestinal obstruction, for in 1,152 cases collected by Leichtenstern there were only 41, and of these only 10 recovered. It is more common in females than in males, and in women above 50 years of age.

The points of interest are: The case might have been diagnosed as typhoid fever, as all the symptoms were there except the petechia and epistaxis, both of which are not constant. Then the size of the calculus, which is one of the largest, and perhaps the largest, (if we could have secured the other part) ever voided *per vias naturales.* Its being originally a gall-stone which remained lodged at the end of the duodenum for at least five months, and been bathed by the bile until it reached its present size. The recovery of the patient, where there is recorded a death rate of 25 per cent. Dr. Pye Smith was the first to make a diagnosis by rectal examination, when the calculus was at the end of the ilium by finding a rounded tumor of exceeding mobility.

CHICAGO PATHOLOGICAL SOCIETY.

Stated Meeting December 10, 1888.

Dr. John D. Skeer, in the Chair.

Dr. D. W. Graham reported a case of

ABNORMAL APPETITE IN AN INFANT.

He showed a box of gravel-stones which a baby a year and a half old had passed from its bowels at one time. There were more than a hundred, many being as large as a hickory-nut. So far as could be learned the child had swallowed them all the day before. The stones caused no symptoms whatever while in the alimentary canal. The child had a persistent inclination to eat stones, lime, mortar, plastering and like substances. It would secrete itself behind an article of furniture in the house and quietly pick off and eat the plastering till discovered; or in the yard it would in the same way pick the mortar from between the stones in the wall. This habit continued until the first teething was completed, since which there has been no such disposition. The only apparent departure from a normal condition of health during all this time was a waxy, semi-transparent appearance of the skin, especially of the face. There are several forms of depraved appetite given by systematic writers on the subject, this particular form —a desire to eat or swallow substances having no nutritive value—being called *pica.*

Dr. Graham also exhibited

A POCKET KNIFE WHICH A BABY EIGHT MONTHS OLD HAD SWALLOWED,

and on the fifty-third day had passed *per rectum.* The knife was about three inches long. The bone-plates on the sides of the knife, as well as more than half of the two blades, had disappeared during the transit. The mother had given the knife to the child to play with. For some weeks laxatives were given occasionally. About the fiftieth day a swelling or lump was discovered by the parents in the right iliac region. They were advised to palpate the swelling several times a day. In two or three days the swelling disappeared, and the knife was passed in the condition shown. No symptoms were caused by the knife at any time. This case occurred in the practice of Dr. J. H. Graham, of Iowa.

Dr. J. M. Patton reported the case of a child, two and a half years old, that had

swallowed a breast-pin, the head and its soldered attachment being about the size of a cherry. The mother was attracted by the child making a noise and efforts at swallowing. On examination the pin-rod was found wanting. No disturbance was produced, and the child was let alone. Two days thereafter it was passed from the bowels.

Dr. W. L. Copeland said with reference to foreign bodies being swallowed by children without producing any symptoms, he would say that some years ago a child was brought to him reported as having swallowed a nickel cent, which was much larger and thicker than an ordinary copper cent. The act was followed by slight irritation and coughing. The child had been examined by several physicians before it was brought to him, some of whom held that there was irritation of the stomach; others bronchitis. The case failed to yield to any kind of treatment. Shortly before this he had a case of stricture of the œsophagus, and this one was brought to him to have an œsophageal tube passed. He passed a tube of medium size without difficulty, but failed to find any obstruction. An examination of the stomach and lungs revealed nothing abnormal. The mother was instructed to bring the child back for a subsequent examination, and about a month elapsed before he again saw the case. The coughing had returned, in the meantime, giving the child a great deal of trouble. At the last examination he introduced a large tube into the stomach, and on withdrawing it the child coughed up the cent.

Dr. A. B. Strong said that cases in which foreign bodies had passed into the stomach should be let alone. Physic should not be given. The foreign body would come away after a while. He could recall several cases that had come under his observation, and one particularly, in which a child had swallowed a penny. He watched the case to see whether symptoms of stricture would develop, but the child finally vomited the cent and recovered without having manifested any symptoms whatever.

Dr. C. D. Wescott said that during his term of service as assistant physician to the Insane Hospital at Kankakee, a number of cases came under his notice. The most alarming one he had met with was that of a patient who ran to a window, broke the glass, pulled out some of the broken fragments, chewed and swallowed them. There was no doubt, he said, as to the patient chewing and swallowing the glass, for pieces were found in his mouth under the tongue. Nothing of a therapeutic nature was resorted to; and the patient had no symptoms.

Dr. J. J. M. Angear said that some physicians in cases of this kind wanted to give a child an emetic immediately. He would not do this, but the first thing to be done, in his judgment, is to have the child fed well with the coarsest kinds of food for the purpose of making as much fæcal matter as possible, so that the alimentary canal would be greatly distended, thus including the foreign substance in the fæcal mass; then after a sufficient time has elapsed for the fæces to accumulate to a considerable extent, he would give a cathartic. He would agree with Dr. Strong, however, that the better plan is to let nature take her course.

Dr. H. N. Moyer reported a case of

SUICIDE BY FIVE OUNCES OF PARIS GREEN.

The case was that of a man who, in a row, had fired from a window at his son-in-law; the latter in haste to get away had fallen backward just at the moment the pistol was discharged. The deceased then turned the pistol toward his own breast and inflicted the wound described. This attempt at suicide proving futile, he fled, and some days later, doubtless believing himself a murderer, he took the poison with fatal effect. This is one of the largest doses of arsenic ever taken, in all amounting to nearly five ounces.

Dr. Moyer also reported a case of

FRACTURE OF THE FIFTH CERVICAL VERTEBRA.

A man was found, lying in a depression some three feet in depth between the curb-stone and side-walk, in an unconscious condition. The bottom of this depression was formed by loose dirt. Death took place some four hours afterward without return of consciousness. Rigor-mortis was well marked, and there were no external marks of injury or violence. On reflecting the scalp an irregular ecchymosis (about one and a half inches in diameter) was found on the vertex. The brain and other organs appeared to be perfectly normal. A slight inequality in the body of the fifth cervical vertebra was noticed, and when the head was grasped and tilted backward, a complete transverse fracture of the body of the fifth cervical vertebra was brought into view. The circumstances in this case pointed to the possibility of homicide, but the opinion was expressed that such an injury could hardly have been produced by homicidal violence, in the absence of more distinct external marks of injury. Further, that the fracture was probably caused by a fall from the side-walk down the slight depression where the patient was found.

Professor A. E. Hoadley mentioned a case of dislocation of the cervical vertebra. The patient, a boy ten years of age, fell from a tree and struck upon his head, the distance being some seven or eight feet, and from that time on he could not move his head. After complaining of a good deal of pain, and his head being in a fixed condition for about a week, he was brought to him for examination. He discovered a well-marked dislocation between the third and fourth cervical bodies. The boy perfectly recovered. At first he concluded it was a dislocation, but subsequent examination had led him to doubt that conclusion and to rather favor the theory of fracture, as there was a well-marked provisional callus. He would take particular pains to examine the case again and see if the provisional callus has been absorbed. There was no bruise noticeable on the boy.

Dr. Wescott had seen one case of fracture of the fourth cervical vertebra in a woman whose weight was about 120 pounds. She fell upon her head a distance of some 10 or 12 feet. There were no marks of external violence. There was, however, a slight flow of blood from both the ears and nose, death occurring almost immediately.

Dr. Skeer then read a paper entitled

A CASE OF OBSCURE DISEASE OF THE BRAIN.

Mr. B. F. L., a machinist, aged 54 years, five feet and eight inches in height, weight 185 pounds, was always considered a strong healthy man: born in New York; moved to Chicago in 1866. Never had any severe sickness; had a bronchial cough in 1876 which passed off in about six weeks. Last June he had a slight paralysis which came on imperceptibly and without shock. It was confined to his left leg. His face was drawn to one side for a day or two, and there was a slight impairment of speech. The paralysis of his leg passed away in about two weeks. The patient did not consider himself sick, but could not understand *why* he did not get well. In December, 1887, he took a journey to California and was absent three months. He did not enjoy the climate or scenery; was impatient to hasten from place to place. He had a voracious appetite—seemed to be hungry all the time. He had to be restrained as to the kind and quantity of his diet; was well nourished. He could not control his emotions; he would cry at common ordinary events, and sometimes cough inordinately at little things, and keep it up for a considerable time. This much of his history I have obtained from his wife and brother. I examined him for the first time about 1st of September last, when he walked to my office and home again, a distance of fourteen blocks. He had all the appearances of a man in good health, and

did not complain of any pain or indisposition. There was, however, a very slight paralysis of the left leg and arm. I found on examination, moderate hypertrophy of the heart; no history of rheumatism; pulse about 90, full, hard and regular; temperature subnormal; tongue clear; appetite good—too good. Bowels were regular, and urine normal. My diagnosis was either a slight hæmorrhage or a tubercle, fibroma or carcinoma of slow growth, the brain accommodating itself to the pressure. I made an unfavorable prognosis. Ergot and bromide of sodium were prescribed. On the 20th of September he was down to his place of business, came home in the evening and ate a hearty supper, and was soon thereafter taken with violent retching and vomiting, and ejected all the ingesta he had taken for his dinner and supper. Pulse was 100, full, hard and regular; temperature subnormal; eyes turned toward the left side; pupils normal; was somewhat unconscious, but could be aroused so as to answer questions intelligently. No pain was complained of in the head; although temporal arteries were dilated with dark blood.

The patient was given full doses of calomel, bismuth, pepsin, and magnesia, ordered in the morning. Medicine acted freely on the bowels; eyes straight; pupils normal, responding to the action of light. Tongue protrudes straight. Pulse 110, full, hard and regular; temperature subnormal; nausea and vomiting continues; no increase of the old paralysis.

22d. Not so much vomiting; mind clear; no pain in the head; has that peculiar cephalic sigh so characteristic of diseases of the brain. Carbolic acid and lime water given up to the 25th, when the vomiting ceased.

On the 26th the pulse was found to be full, hard, and regular; temperature 1.2 subnormal; eyes straight; pupils normal and respond to the action of light; no pain in the head; patient is conscious and recognizes his friends when they call to see him; no increase of paralysis; he rolls himself in the bed from side to side and seems to use his left about as well as his right side. He has an occasional deep cephalic sigh. He has no thirst, but takes milk as food and drink. Prognosis unfavorable. Diagnosis uncertain.

On the 27th, Dr.———, an old friend of the family, was called in consultation and advised the use of Norwood's tincture of veratrum to diminish the frequency of the pulse and take off the blood pressure from the brain. Gave five drops every hour till the pulse was reduced to 80, then every two hours.

28th. No change in his general appearance; pulse 80; temperature $2\frac{1}{3}$ subnormal. No special nervous symptoms, such as twitching of the muscles.

30th. Pulse 100; temperature $1\frac{1}{2}$ subnormal; patient losing strength; is quite conscious; eyes normal; pupils respond to light; no pain; takes milk when it is offered to him; is restless and has had but little refreshing sleep. Cephalic sigh every fifteen or twenty minutes. The veratrum was given occasionally during the day and hydrate of chloral in ten-grain doses during night to procure sleep and quiet his restlessness. From this time up to the day of his death, there were no special symptoms other than those that have been given, except a gradual diminution of strength caused by some obscure disease of the brain.

Dr. Skeer desired to emphasize the condition of the patient on the 5th of October. He was conscious, pupils normal, and responded readily to the action of light. There was no increase of paralysis, the patient seeming to use his left as well as his right side. Muscular movements, however, were somewhat impaired. Death occurred on October 7th, at 7 p. m., apparently from exhaustion of the brain, with a group of symptoms that he could

neither analyze nor formulate with any degree of certainty.

Post-mortem examination. There was nothing abnormal in the appearance of the upper surface of the brain. Some of the puncta vasculosa were very large; one small artery on the right side, when cut off on a line with the upper surface of the corpus callosum, stood open. There were about two drachms of serum in the ventricles and about four at the base of the brain. A blood cavity was found in the inner, upper, and posterior portion of the right hemisphere of the cerebellum, which was lined with a thin membrane and filled with serum and a clot of blood. The center of the right corpus was slightly softened. No tubercle, fibroma or carcinoma was found, nor even a trace of inflammatory action. The patient died from exhaustion of the brain, its nutrition having been cut off by general atheromatous degeneration of the cerebral arteries, which was the first link in the chain of morbid action, was the cause of the hæmorrhage and the softening of the corpus striatum, and readily accounts for the cerebral anæmia, the absence of pain in the head, and the subnormal temperature.

In reply to Dr. Angear, Dr. Skeer said the respirations were slow.

Dr. Angear: If we interfere with the action of the pneumogastric nerve we always increase the action of the heart, diminish the rate of respiration, and lower the temperature. If we have both an increased pulse and respiratory rate, and an increased temperature, all in due proportion, then we have no particular evidence of cerebral trouble. But if we get that "see-saw" arrangement, one going up while the other goes down, it is reasonably certain that there is interference with the pneumogastric nerve, and I think that in Dr. Skeer's case had the respirations been counted as accurately and persistently as that of the pulse, we should have found that they were far below their normal proportion.

GYNÆCOLOGICAL SOCIETY OF CHICAGO.

Regular Meeting, Friday, November 16th, 1888.

The President, Charles T. Parkes, M.D., in the Chair.

Professor A. Reeves Jackson read a paper on

SOME UNCURED CASES OF UTERINE HÆMORRHAGE.

I desire to report the histories of some of the cases in which I have failed to cure a rather frequent ailment—uterine hæmorrhage.

Case I.—Mrs. F. W. first consulted me on July 7th, 1884. She was 28 years old, and had been married two and a half years; no pregnancy. Menstruation commenced at the age of sixteen, and had always been regular and in every way normal down to the time of marriage. After that event, a period occurred at proper time. The patient then missed two periods. After lifting a heavy weight, a flow of blood appeared and continued for several weeks. She visited Dr. Wm. Goodell, of Philadelphia, who curetted the uterus in May, 1883. I do not know what, or whether anything, was removed, but the patient considered herself well for four months. In the following autumn, two periods were again missed. After a trifling misstep a red flow began, and continued about one-half of the time for nine months; then I saw her. She was a large but not tall woman, weighing one hundred and sixty-two pounds, of dark and rather dull complexion, and habitually despondent temperament. There was no history or present evidences of any disease of important thoracic or abdominal organs. The pelvic viscera were found to be entirely normal in size and position. The os uteri was rather small, but of virginal shape, and free from redness or erosion.

On July 9th, I administered ether, and curetted the uterine cavity. A few fungous granulations were removed, and an application made of Churchill's iodine solution. This latter was repeated every four to seven days. For about three months menstruation appeared at intervals of four or five weeks, rather profusely, and lasting from seven to ten days. Then the inter-hæmorrhagic periods became shorter —about three weeks. During the spring of 1885, the intervals were about two weeks; once only nine days intervened. In the early part of 1886, the flow was more irregular, recurring every three to six weeks. In July, however, it appeared after an interval of two weeks and lasted three weeks, not profusely but constantly. In August following, I again used the curette, without any result. Nothing was removed, and no change was produced in the symptoms. In June, 1887, the same operation was followed by a like negative result. A month later, my connection with the case ceased. During the time of my attendance (which was not continuous, but interrupted sometimes for periods of several months) the treatment consisted in efforts to overcome habitual constipation, and the intra-uterine application of iodine, carbolic acid, a solution of ferric alum, etc. These applications were always preceded by the introduction of a No. 12 bougie. There were two unfavorable conditions present in this case which I could not obviate. The one was tight-waist dressing, and the other an insuperable objection to active exercise.

Within the past few days the husband of this patient called upon me and stated that the subsequent history of his wife presented no material change; that, at times, she seemed better, and then became worse again. She is now under the care of a prominent physician of this city, and is thought to be improving.

Case II.—Mrs. E. D. placed herself under my care January 22d, 1885. She was a Jewess, had been married three years, and was never pregnant. Menstruation began at twelve, had never been distinctly regular, and for many years was rather scanty. During the past year, however, the discharge had recurred with greater frequency than ever before, the interval being less than four weeks, and it had become shorter and shorter, while, at the same time, the quantity of discharge at each period had steadily increased. During the month immediately preceding my first interview with the patient, there had been three attacks of flowing. There was no evidence whatever of cardiac, pulmonary, hepatic, or renal disorder. The patient ate well, slept well, and felt well. She was only annoyed by the frequency of the bloody flow. A pelvic examination revealed no abnormal condition, position, or shape of any of the organs. The single disordered symptom discoverable consisted in a discharge of dark blood which was seen slowly oozing from the os uteri. The introduction of the sound was easily accomplished and was followed by a rather profuse flow of redder blood.

Two days later, under ether anæsthesia, the cervical canal was moderately dilated, and the interior of the uterus curetted. A small number of fungosities were removed and the uterine cavity swabbed with Churchill's iodine solution. On February 20th, a bloody discharge appeared, and continued more or less profusely until March 14th—three weeks. I then made an application of Monsel's solution of iron. The discharge ceased for two days; it then reappeared and lasted to March 23d—seven days. I again dilated the cervical canal and passed in a curette, without removing anything, and applied the iodine solution. There was no discharge for eight days subsequently. Then a flow which seemed like that of menstruation appeared. It lasted five days, ceased two days, reappeared and continued with occasional intervals of one or two days until April 23d, when it became profuse and

seemed like menstruation again. After a few days the flow diminished, but a reddish-tinged oozing continued until a more profuse flow indicated the return of catamenial discharge. On November 9th, the patient reported that the longest time she had been free from bloody discharge was four days. During all that time, I had availed myself of frequent opportunities of making local applications of iodine, carbolic acid, Monsel's solution, alum, fused nitrate of silver, etc. Also, I had given quinine, ergot, and viburnum, and on several occasions I had gently dilated the cervical canal, and tried to get away something with the dull curette.

No especial change was noticed in the symptoms in the summer of 1886, during which time all treatment was suspended. In January, 1887, the patient informed me that once only she was free from hæmorrhage for a period of three weeks. Treatment was then resumed. I introduced a tupelo tent and followed the dilatation by a very thorough application of iodized phenol. This was repeated at intervals of from five to seven days for several weeks. There was no improvement. Then I tried nitrate of silver for awhile, but the hæmorrhage continued. In the summer of 1887, the patient went to Europe with her husband, and for a few weeks while there she was somewhat better. In the following autumn, however, after her return, the hæmorrhage was as constant as before. On December 23d, I dilated the uterine canal mechanically under anæsthesia, and removed two large granulations. She died one week later of peritonitis.

Case III.—Mrs. W. L., aged 35 years, had been married seven years, and had two children, the younger being sixteen months old. I saw her on September 5th, 1885. When the baby was ten months old, menstruation appeared, and for two periods was quite normal, lasting four days. The third came a week too soon and lasted two weeks. After an interval of two weeks it again appeared, and when it had persisted ten days, necessitating two or more napkins daily, she applied for relief. She then showed effects of the loss in pallor, impaired strength, and enfeebled digestion. The baby was weaned, and the patient took strychnia, quinine, and arsenic. I found no pelvic cause for the hæmorrhage unless it might have been a slight degree of subinvolution.

The uterus was freely movable, in normal position, free from erosion, and there was no swelling or undue tenderness in the region of the ovaries, tubes, or broad ligaments. Constipation was present, and I prescribed salines and a regulated nutritious diet. Subsequently, the hæmorrhage continuing more or less constantly, although not profusely, other means were tried, many of them rather empirically. They included ergot, hydrastis, viburnum—all without perceptible effect. Then I dilated the cervical canal and explored the interior of the uterus with finger and curette. Nothing was found.

After about eight months, the patient placed herself under the care of an electrician, who treated her for nearly six months. Then she went to Cincinnati, and remained several months under the care of a distinguished gynæcologist. She returned to me in January last, and stated that she had not at any time been more than ten days without a bloody discharge, and rarely more than three days. The menstrual periods were distinguishable by the more profuse flow which marked their presence, and they were fairly regular.

Once more I dilated the cervix under etherization, and drew a curette over every part of the intra-uterine surface, taking especial care to get the instrument into the cornual depressions. No tissue was brought away, and very little blood. I subsequently made internal applications of tinct. iodine, tannin, Monsel's solution, and once, at the close of what seemed to be a

menstrual period, I applied nitric acid. While, at times, there was a diminution of the discharge, the improvement was only temporary, and in July last she again passed from my care.

Case IV.—The notes of the following case were kindly furnished me by Dr. J. H. Stowell. M. M., a single woman, 25 years of age, was born in Canada. Menstruation commenced at twelve, and was quite regular until she was nineteen; then the flow became prolonged, lasting sometimes five or six weeks. This was followed by regularity, both in quantity and times of recurrence for a few months, when menorrhagia again appeared. At the age of twenty-two she was examined by a physician at Ottawa, who curetted the uterus, with what immediate result is not known, but the patient was free from all sanguineous discharge during a period of three months. Menstruation then returned and was regular and in every respect normal for the following four months. Becoming menorrhagic again the curetting was repeated, with the same temporarily beneficial results as before. Again after a few months, the flow became profuse and a third curetting was made six months after the second, the latter time without apparent benefit.

The patient removed to this city and came under the care of Dr. Stowell, with whom I saw her in the early part of the current year. On January 21st, after thorough dilatation of the uterine canal, I curetted very carefully, removing a small number of granulations. The operation was followed by the application of Churchill's iodine. For two months subsequently there was no bloody discharge. Then it reappeared, and Dr. Stowell informs me that he has continued to treat the symptom in a routine manner locally and generally, but without satisfactory results. Latterly this case presents a curious feature: the flow is very profuse every alternate month, and normal the other.

It will be observed that in the foregoing cases there were some features common to them all. Thus, in none of them did the hæmorrhage take the form of rapid, profuse flow suddenly exhausting the patient, as we not infrequently notice in cases in which the discharge depends upon an abortion, or upon the presence of cancer or fibroid neoplasm. On the contrary, the evil effects produced were the result rather of the persistence of the discharge covering long periods of time. Again, in none of them was there evidence of disease of the lungs, heart, liver, kidneys, or other important organs causing a depraved condition of the blood or pelvic plethora. In none of them was there a history of hematocele, pelvic inflammation, or detectable pelvic swelling. In none of them was there any displacement or flexion of the uterus, or dislocation of the ovary. Indeed, in none of them could I determine a sufficient local or systematic cause. I have thought that possibly some such cause might exist in disordered condition of the Fallopian tubes or pelvic cellular tissue not ascertainable by our present known methods of investigation.

Being aware of the influence of malarial poison in producing congestion of the abdominal and pelvic viscera, including perhaps the mucous membranes, I have not failed to take this possible etiological factor into consideration and to make careful inquiry with the view of ascertaining its existence. The result in each case was wholly negative.

Dr. D. T. Nelson: I cannot say that I have seen just such cases; I only regret that the doctor was not able to follow the cases even longer. One died; I would like to know if there was any post-mortem examination. Perhaps the cause of death was such that it would hardly be satisfactory if there were a post-mortem. It seems to me that the only way we can arrive at a conclusion as to the nature of the disease and consequently the proper method of treatment, is to follow them longer. One

case that I have seen, I was fortunate enough to see one or two years after a somewhat similar experience by other gentlemen, in which nothing was reported to have been found, in which there was curetting; but as I saw it subsequently there was plain evidence of fibroid tumor. Perhaps if these cases were seen longer or examined post-mortem there would be a satisfactory explanation of the persistence of the hæmorrhage. I think one of the small single or multiple fibroid tumors, which cannot be detected by the most skillful finger, or by any means of examination that we have at present, are likely to produce such results, and I believe they may lie dormant for a longer period than these cases have been observed; I am quite sure that I have seen them—and eventually, perhaps of their own nature, develop so as to be found; perhaps from some exciting cause other than that. There is another cause, it seems to me, for these hæmorrhages, concerning which I can hardly speak rightly: Will disease of the Fallopian tubes produce hæmorrhage from the uterus? I do not mean by that a salpingitis that will fill the tube with pus or serum, and be so large as to be easily felt, but actual disease of the mucous membrane, perhaps not extending much deeper than the mucous membrane, but capable of producing a continuous hæmorrhage. I simply throw this out as a hint, as a possible explanation, for further examination. Perhaps it is not a parallel case, and yet it seems to me that there is a similar cause. A woman after menstruation, if you please, a week after the cessation of the menstrual period, takes cold, has a slight cough, has a traumatism or some slight disturbance in the pelvis giving pain and other evidences of inflammation; we all know that one of the most common symptoms attending upon the pain, etc., is hæmorrhage from the uterus. Not a severe one, perhaps, but a slight flow. You may say that means congestion of the whole pelvic viscera. True, it ordinarily does. But what does produce the uterine flow? Is it the uterus alone, is it the ovaries alone, is it the broad ligaments only, is it the Fallopian tubes and the uterus, is it the Fallopian tubes only? It does seem to me in some instances that it is not only the uterus, not only the broad ligaments and vascular structures about the uterus; but that the Fallopian tubes and ovaries have very much to do with this condition. I believe if these cases were observed long enough, we should find a congestion of the uterus produced by a fibroma or sarcoma, or disease of the Fallopian tubes or ovaries, and pre-existing disease of the ovaries and tubes produce hyperæmia of the uterus that favors the development of fibroma and sarcoma.

Professor C. T. Parkes: A case was recently reported in one of the foreign journals where all these remedies were used; curetting and intra-uterine dilatation, and finally the surgeon concluded he would make an abdominal section. After making the section, he found what he reports as a cavernous angioma of one of the ovaries. It was removed and the case cured.

Dr. Robert Tilley: It is my special interest in the last case reported by Dr. Jackson that has given me the honor of being present this evening. The reason why the patient came more or less under my observation was this: A distant relative, who is an intimate friend of mine, had been instrumental in bringing the patient here from Canada, and was a good deal concerned about the fact that she was not any better. She came to me for general counsel as to what would be the best course for her to adopt under the circumstances. I advised her to get letters from the doctors who had been in attendance on her and to send them to her parents, with the supposition that they would consult with the family physician who had previously curetted the uterus. Meanwhile, the patient was flowing considerably, and she asked me if I would not give her such general instruc-

tions as would enable her, at any rate, to be freed from a certain amount of anxiety which she necessarily would be under apart from that. I said that under those conditions I would, with the understanding that if any serious symptoms developed I should not think of taking charge of the case. I resorted to turpentine, 10-drop doses in an emulsion, and after she had taken two doses of this turpentine, there was a sensation of strangury, and it was stopped for one day. With that strangury there was a manifest diminution of the flow. I concluded that it was fair to infer that the organs in the pelvic regions were, in all probability, susceptible to the turpentine, and I recommended its use in smaller doses and added to it some camphor water. She continued to use the turpentine, and the flow continued to diminish; there was no longer any sensation of strangury after she had used the camphor water in conjunction with it, and on Saturday last I was informed that the flow had ceased altogether. She called at my office, and I found that the pulse, which had been previously 100, was reduced to 80, and the peculiar sensation of palpitation which she has complained of as existing before was almost completely removed, and she was feeling in every way a good deal better. I heard from her again on Tuesday, she was then on her way to one of the suburbs, with the understanding that I should hear from her again to-morrow. I feel satisfied that the flow has not returned, otherwise I should have heard. The use of the turpentine seems to have had the special advantages of securing, at any rate, a temporary cessation of the hæmorrhage.

Professor Jackson: These cases I have reported are not the only ones which I have failed to cure, but I had accurate notes of these, and I considered them sufficient for the purpose of bringing the matter before the society. The existence of fibroids as a probable cause in some of these cases, as suggested by Dr. Nelson, had occurred to me. The question of possible pregnancy also arose, and I made such inquiries and investigations as I hoped would lead to a settlement of the latter point especially. We know that in fibroid growths of the uterus hæmorrhage becomes by-and-by a prominent symptom, and usually it is the one which first calls the attention of the patient to her condition; and in these cases we usually have no trouble in the diagnosis where there is present either a polypus or a fibroid of sufficient size to alter the shape of the uterus or to be felt within the cavity of the organ. I can conceive how a very small fibroid, incapable of detection by ordinary methods and ordinarily skilled hands and fingers, might produce hæmorrhage, but would it yield to the medical treatment of a fibroid? If it did not, we should hardly feel justified in making a laparotomy to discover the existence of a fibroid that presented no other evidence of its existence than hæmorrhage. It is true that patients nowadays submit to laparotomy when they are urged to do so; yet the one who urges should have some kind of objective reason upon which to base his advice. In none of these cases could I detect any change whatever in the shape of the uterus. The fact is that, when we find a fibroid as the cause of hæmorrhage, it is already surgical. It is large enough sometimes to have existed, with their slow rate of growth, for many years, and yet hæmorrhage has probably not been present until the latest part of the history.

Disease of the Fallopian tubes I have no doubt is a frequent cause of persistent uterine hæmorrhage. Primarily, the blood may have its source in the tube; later, by overaction—by the mere bleeding—there is produced manifest disease of the endometrium, as in the case last cited. But, granting this, inasmuch as we can only reach the uterine lining anyhow by our topical treatment, even if we have a suspicion that there may be tubal disease, it does not aid us in deciding what to do

for it. The ethics of the condition are in doubt.

Allusion has been made to the death of the third patient. She died of peritonitis following the operation. I have reported it in order to call attention to the danger of what is usually considered a simple and safe operation. In this case, the operation was done under the strictest antiseptic precautions; every care was taken to avoid any danger from that source. Unfortunately, I was obliged to leave the city shortly after the operation, leaving the patient in an unsatisfactory condition, temperature 102°, rapid pulse, red cheeks, and evident high constitutional excitement. On my return I found her still worse, and shortly afterwards she died of peritonitis, whether septic or not I do not know. The dilatation was mechanical; was not made by tents, which I consider a dangerous method of treatment.

I did not mention in the paper an important fact in the subsequent history of the last case. It was this: During the last examination I made, I detected a distinct swelling at the side of the uterus, apparently in the Fallopian tube. Then I suggested that if the patient did not get better, here was a reason why we might properly make a laparotomy—not for the hæmorrhage, but for the swelling which was possibly the cause of it. The curetting on three occasions certainly had a very satisfactory effect. On one occasion, for four months subsequent to the operation, the patient had no bloody discharge whatever, natural or unnatural, which would seem to indicate that, at that time at least, the cause of the hæmorrhage was in the uterus, and that the effect of the remedies applied more thoroughly after the dilatation had a controlling influence for a long time. This is very satisfactory to a patient who has been having a profuse or prolonged hæmorrhage. This patient was under the care of excellent men in Canada, who, so far as I know, never detected any swelling, and I infer from this fact that the latter symptoms were of comparatively recent appearance.

The nitric acid, which I applied in one case, I formerly used a great deal more than I do now. My method of using it is that recommended by Athill some years ago. The uterus is previously dilated, and when sufficiently open, the pure nitric acid is passed into the uterine cavity on an ordinary cotton-wrapped applicator. I place the patient on her back, introduce a perineal depressor, seize the anterior lip of the uterus, draw the organ down, and surround it entirely with cotton which has been dipped in a solution of bicarbonate of soda. The applicator is dipped into the acid, passed into the uterine cavity, and held there for a few minutes. It is then withdrawn and the vagina syringed until all fuming ceases. Then I remove the tampons from about the cervix, and another tampon saturated in glycerin is placed over the os uteri. Such was the method used in this case. The nitrate of silver I applied in this way: A few grains of the crystal are melted in the bottom of a test tube. A silver uterine probe is dipped into the fluid and withdrawn a few times, until a bead is formed on the end of the instrument the size of a grain of rice. This is passed through a speculum up into the interior of the uterus, and held there for a few minutes, and slowly drawn out so as to come in contact with the surrounding membrane. This method has been recommended as very effective in chronic cases of menorrhagia. The hydrastis I have used a good deal. Loewenthal has reported several cases in which he had used hydrastis for preventing menstruation absolutely in persons to whom it was injurious; chlorotid and anæmic patients, he affirms, have been effectually cured by the use of hydrastis, given so as to absolutely obliterate the function of menstruation.

Ergot I have not found to be beneficial in any condition of the uterus involving

hæmorrhage, unless it be subinvolution during its soft stage where the uterus is large and heavy. In those cases I believe ergot is an excellent remedy. That condition was not present in any of these cases. Whether in one of them the cessation of menstruation for two months indicated pregnancy, I do not know, but there was no other evidence of it; there was no fœtus observed; nor was the history that of an early abortion, so that the single symptom of absent menstruation in a woman who was irregular at times was not so significant as it might be under other circumstances.

Dr. Addison H. Foster read a paper entitled

A CASE OF HYDRAMNION.

December 11th, 1875.—Mrs. W. English, aged 27, was taken in premature labor at the eighth month with her third child. On my reaching the case, the abdomen was found enormously distended, the pains regular but feeble; the os fully dilated; the membranes intact but firm; the presentation doubtful. In the interval of pains the finger was carried high up as possible anteriorly upon and through the sac, and held there to retard the discharge of the fluid, in order to prevent prolapse of the cord and sudden emptying of the uterus, and to lessen the danger of hæmorrhage.

The patient being upon an oil-cloth, scantily covered, a large empty tobacco pail, holding fifteen quarts, was seized and held under the overhanging cloth, until it was filled brimfull with normal appearing amniotic fluid; some fluid was lost in the bed and on the floor. With three or four pains, a small well-formed but immature child was expelled, that lived but a few hours.

The placenta was adherent on one side, requiring forcible digital separation from its site. It was small, being thin and fibrous on the adherent side. There was no unusual hæmorrhage following, as the uterus contracted firmly and remained so. The patient made quite a prompt and normal recovery.

There had been very little œdema of the limbs and no history of suffering from unpleasant symptoms, excepting from the distention which came on principally the last two months. Her former labors had been normal. There was no history of any *specific* disease.

I made no test or examination of the fluid or microscopical investigations of the placenta, as would now be done, with an awakened interest in the various placental phenomena met with. Hence, I am not prepared to demonstrate the causes in this case, but I wish simply to place it on record as one more contribution of its kind.

Authorities are not well agreed upon the etiology of this disease. Most authorities regard hydramnion as a disease of the fœtus or its membranes, and look there for its cause. Landois and Stirling state that "in the pathological condition of hydramnion, the blood-vessels of the uterine mucous membrane secrete a watery fluid" (p. 882, 2d ed.). According to Charpentier, one of these three (3) kinds of lesions are usually present: "1st. Those of a supposedly inflammatory nature. 2d. Fœtal malformations. 3d. Lesions of the uterus, or tumors of various kinds. Among the inflammatory are found degenerations and adhesions of the placenta, to which category our case evidently belongs. The same author states that the following facts have been proved by various observations:

1st. Dropsy of the amnion coincides very frequently with twin pregnancy.

2d. That children born with the complication of dropsy of the amnion are often the subjects of malformations and monstrosities.

3d. That a certain number of these cases are syphilitic.

4th. Hydramnion is very rare in primiparæ and comparatively rare in second pregnancies.

This case developed it at her third pregnancy.

From the cases on record, the amount of fluid that has occasioned trouble varied from ten to sixty pounds, as a rule, though five pounds have occasionally done so. In the case I have cited the amount could not be far from forty-five pounds.

In regard to the prognosis, that for the fœtus is always very serious. For the mother, not so serious, except in acute hydramnion, although the danger of uterine inertia and hæmorrhage in all cases is considerable,

Dr. Sawyer: The senior Dr. Byford, in the early history of this Society, called attention to the fact that hydramnios was frequently associated with monsters or the acephalous fœtus. That statement called to mind that I had seen two or three cases of spina bifida that contained enormous quantities of fluid, and it occurred to me then that the arachnoid membrane, which is open in the acephalous fœtus, is capable of secreting an enormous amount of fluid. Is it impossible that the fœtus does really contribute most of this fluid? I have seen one case of hydramnion with a woman pregnant for the third time.

I remember one case--the one I have already alluded to—in which labor that I thought was surely begun was greatly interfered with by the feebleness of the uterus, due to its great distention, and in that case I introduced a catheter through the cervix high up and drained off all that I thought necessary, withdrew the catheter and there was no further drain, and the labor progressed rapidly and favorably to the injury of neither mother nor child. It is a simple thing to put a male catheter, when the os is patulous, as high up as you please, and rupture the membrane and tap the amniotic sac high up.

Dr. A. H. Foster: In regard to the treatment of this case, I attended her in her second pregnancy, and was not aware of her third until I was called and found her in the condition I did, as she did not expect to have to call me for another month, so I had to act at once. I should think that the idea of aspiration would be a good one. If I should be called to a case early enough and find these conditions, I should be very happy to have Dr. Earle with me to try the experiment.

Dr. Edward B. Weston read a paper entitled

A NEW PROCEDURE IN CASES OF ANTICIPATED COMPLETE RUPTURE OF THE PERINEUM.

On October 4, 1888, I was, for the fourth time, called to attend Mrs. H. in labor. She is a woman somewhat below the average size, and has rather a narrow pelvis, while her children are all large at birth. At the birth of her first child, a boy who weighed twelve pounds, she received a complete laceration of the perineum. The second child, also a boy, weighed nine and one-half pounds, and the perineum was torn to the anal sphincter. The third pregnancy was terminated in the sixth month by unknown cause. The child was of course small, but delivery took place very rapidly, and there was again a rupture, though not to the same degree as in the second labor.

On visiting the patient at the beginning of her last labor, an examination showed a well-restored perineum, and a child seemingly very large presenting in the first position.

Meditating over the situation, remembering what had taken place in her previous labors, I feared a complete rupture would again occur, however well I might apply the various methods or procedures for protecting the perineum. The thought came to me that it would be well to introduce a deep suture before the laceration occurred, and before the head began to press upon the perineum, so that if complete rupture did take place I should have one suture already in place, by means of

which I could easily bring the parts into accurate apposition, and which could in a measure be used as forceps or tenaculum, and be of great service in whatever after-operation might be necessary. I could see no objection to the step; so with a long curved needle I introduced a silk suture a little more than half an inch to the right of the anus, and carried it up about an inch and a half in the recto-vaginal septum, and brought it out on the left side at a point corresponding to its point of entrance. I left either end six inches long and tied them together. Again there was a laceration, though not a complete one. The child, a boy, weighed eleven pounds. Objections will, of course, be raised to the procedure which I have suggested. Let us consider a few of them.

One objection will be that we cannot tell when we are to have a complete rupture. We cannot always know in advance, and here the unexpected often happens. But in some cases we feel very sure it will occur, and it is in these cases that the stitch should be introduced. And in cases of doubt the stitch had better be placed, as it will in any event do no harm. Another objection may be that, if rupture should take place, we cannot tell what direction it will take. In the great majority of cases, externally, the laceration occurs, practically, in the median line. So that whatever its internal course may be, all the advantages claimed for the stitch will be obtained. Again: that should the procedure be recognized as proper in certain rare cases, it will be abused by too frequent use. And that, with the stitch in place and with confidence in the future assistance to be derived from it, our vigilance in protecting the perineum might be relaxed. To these objections we can only say that the conscientious accoucheur would not be influenced by them.

Some will suggest the danger of sepsis. We do not believe this need be feared. If antiseptic precautions have been observed, and the stitch buried in the tissues through its whole length, the increased danger will be nil. If, fortunately, rupture does not occur, the stitch can be cut short at one side, withdrawn, and no injury will have been done. Others will say that, even should complete rupture take place, the physician should be skillful enough to repair it by some one of the old methods. This is true; but the fact remains that there are all degrees of surgical skill, ranging from no skill to that of the highest degree.

It may also be said that the obstetrician who would introduce the stitch before laceration occurred would be the very one who would have least need of it afterwards. We grant it. But the majority would prefer to have the stitch in place, rather than to begin repairs without it, the parts being not only lacerated, but often so contused, swollen, or retracted that their normal relations can scarcely be made out.

If, by the procedure suggested, some one may be enabled to repair a complete laceration of the perineum, which otherwise would be left for a gynæcologist to repair after the patient had suffered, mentally as well as physically, for weeks or months, we think it cannot be objected to. And however expert an operator may be, it is true that the easiest, simplest way of obtaining a desired result from operative procedure is the best way.

Dr. H. P. Newman: I would suggest as a substitute for this manner of procedure one that has long been in use, namely, episiotomy, or bilateral incision of the vulva. It has served me well in one or two instances. It has this obvious advantage, that it allows of tearing laterally in such a way as not to injure the perineal muscles, or injure the recto-vaginal wall. In this way we can also prevent complete laceration, where some tearing is inevitable. I should regard Dr. Weston's method as a most admirable means of placing the initiatory stitch, where rupture seems imminent,

although I cannot see how it could well obviate the tear.

Dr. E. W. Sawyer: The slight lateral incision, or episiotomy, does often prevent the laceration from occurring in the median line. I have made these incisions, one on either side, in nearly every forceps case in primiparæ, and I never saw the least harm come from it. In some instances, when I thought the perineum would be extensively torn, the laceration was really very short and insignificant. I think the suggestion of Dr. Weston is most excellent; it is in exemplification of the old axiom that a stitch in time saves nine, and I, having attempted to repair an entirely lacerated perineum more than once immediately after parturition, know something of the difficulty of introducing a deep, properly applied suture and if I could have the first suture introduced when the parts were in their normal relations, I should consider that I had overcome the greatest obstacle in immediate repair. I do not see one objection to the introduction of the suture.

Dr. Jackson: The two incisions should not be lateral but diagonal, so as to pass about one-half inch on either side of the fourchette directly outward, going beyond the rectum on either side. I have never used it, but it seems to me that in a case where complete laceration seemed inevitable it would certainly be a preferable procedure to allowing the perineum to rupture. I did not understand Dr. Weston to say that the stitch recommended by him would prevent the laceration, but that it would aid in its repair, and from this point of view I regard the suggestion as a very valuable one. It would certainly simplify the primary operation for rupture of the perineum.

Dr. E. B. Weston: I have nothing further to say, except that I did not propose, as was intimated by the first speaker, taking this stitch to prevent anything at all. It was not suggested as a preventive, but simply as an aid, in case a laceration should take place after all you had done, whether by episiotomy or any other method which you could think of, in bringing the parts together.

Dr. Bayard Holmes presented specimens of

CULTURES OF BACTERIA FROM THE URINE OF A CASE OF NEPHRITIS AFTER SCARLET FEVER.

The specimens are of such a character that while they may not be in themselves particularly interesting, I hope they are of sufficient account, in connection with the paper I wish to present at the next meeting, to deserve a moment's attention. My paper is upon the subject of "Secondary Infection in Acute Infectious Diseases of Children." One of the diseases that I treat of is scarlet fever, and as the complication that is perhaps the most alarmimg and serious in scarlet fever is nephritis, I have taken a good deal of pains in studying the subject. Through the kindness of a neighbor physician I had a chance to examine the urine of a case of nephritis after scarlatina, and to make a few cultures from it. On the first day that any symptom of nephritis was noticed there was a very large amount of blood in the urine and I took pains to collect some of it in a perfectly sterilized flask after the first part had passed away, so as to get it in as nearly a sterile condition as possible. I took it home and planted the sediment in a few tubes of gelatin. The gelatin in a very short time showed small colonies growing along the track of the needle. From isolated colonies, the second series of tubes was planted, and they begin to show a characteristic growth. Only one of the first series of six tubes remains sterile, and only two of them begin to show any signs of mixed infection. The remaining three tubes are evidently pure cultures of the *Streptococcus pyogenes* of Rosenbach. This is the microbe that produces the enlargement of the cervical lymphatics early in scarlet fever.

CHICAGO MEDICAL SOCIETY.

Stated Meeting, November 5, 1888.

PRESIDENT J. H. ETHERIDGE, M.D., IN THE CHAIR.

DR. EDWARD B. WESTON read a

PLEA FOR THE USE OF ANÆSTHETICS IN OBSTETRIC PRACTICE.

I recently had a patient, who sometime before confinement, of her own accord, brought up the subject, and requested me not to give her chloroform. I briefly explained matters to her, but told her I should of course respect her wishes. Though if the matter were to be left to me I should give her the chloroform. When labor at length began, and the pains of the second stage grew harder and harder, she quietly said, "I think I *will* have a little chloroform." She had previously given birth to one child without an anæsthetic; but she now said were she ever to have another, nothing could induce her to do without chloroform. I speak of this case to show that prejudice is disappearing, and I believe that in another five years chloroform will be the rule as it now is the exception.

An anæsthetic should be given to prevent suffering, if for no other reason. We have all seen cases where the child was small and the maternal parts of ample room, where the patient to all appearances, and from her own statement, did not suffer much. But even in such cases chloroform would have added to the credit side of the account.

I once had a patient who had a small tumor to be removed from his forehead. Against my advice, he declined to take ether. He bore the operation without the least indication of pain; but when it was finished said, with a groan, nothing would induce him to again endure what he had suffered. So in labor, in cases where the patient exhibits real bravery, and appears not to suffer, the pain is so great that we should consider it our duty to, and just as much expect to give an anæsthetic as if we were to perform a surgical operation.

I do not advise that all pain should be done away with—that from the first pain until delivery is accomplished not a pang should be felt. During the first stage chloral and opium find their place. But even then, if other means do not relieve from the wear of pains, which to the patient seem to do no good, a little chloroform is a great boon. During the second stage we should expect to relieve the patient from the greater part of her suffering, carrying the anæsthesia to complete insensibility if necessary. Of course the great majority of patients *can* endure the pain, if they have to. But unless there are physical objections, or objections on the part of the patient, we should expect and consider it our duty to give chloroform simply to save suffering. No one questions the propriety of an anæsthetic when an obstetric operation is necessary.

In a great majority of cases labor will be shortened if chloroform is used. The patient will be calmed and her courage increased; useless voluntary muscular action, and spasm, will be arrested and the uterus contract more regularly and with greater effectiveness.

But the greatest benefit is to be derived when the child enters the outlet and begins to distend the perineum. Then, in most cases, anæsthesia should be carried to the full surgical degree. The patient being unconscious, we may give her all necessary attention without undue haste, caused by our anxiety to save her from her horrible agony.

The patient being perfectly passive, the head descends and retreats regularly until the perineum is sufficiently stretched, the child is born and the mother probably uninjured.

To recapitulate:

1. An anæsthetic should be given to save suffering and an unnecessary expenditure of nervous force.

2. To shorten labor.

3. To enable the patient to pass through the completion of the second stage with less or no injury to the perineum, thereby saving an operation for repair, and a rent through which contagion from without may enter.

Anæsthetics will thus give us less necessity for the after use of antiseptics.

Dr. J. C. Hoag read a paper entitled,

MODERN VIEWS OF THEORETICAL AND PRACTICAL OBSTETRICS.

Assuming then that child-bed fever, so-called, is an infection differing so far as we know in no essential particular from surgical infection, and assuming further that we have to deal, not with an auto- but with an hetero-infection, what are we able to assert of the present state of our knowledge concerning the origin of this disease?

Puerperal fever, so-called, is to be regarded as a generic term practically the equivalent of surgical fever. Further than this we can only say that it is non-specific in character and may be produced by the streptococci as well as the staphylococci. Regarding the presence of micro-organisms in the genital canal of healthy women the following general deductions have been made by Dr. G. Winter from the experiments of the various investigators: 1. Bacteria of all sorts are found to some extent in the Fallopian tubes of the cadaver, while in those which have recently been removed from the living subject the bacteria are extremely few. 2. Bacteria of many sorts have been found in the uterus. 3. In the cervix and vagina great numbers of organisms of various forms are found, but none of these are pathogenic.

Winter's own experiments do not wholly confirm the above findings. Having examined quite a large number of tubes and uteri freshly removed from living subjects, he found that the normal tubes and healthy uterine cavity contain no micro-organisms, while in the vicinity of the os internum he found them in one-half of the specimens examined. The result of his examinations of the cervical secretions was, that in every healthy woman, numerous micro-organisms of three or four varieties, including both bacilli and cocci, are found. The micro-organisms become much more numerous during pregnancy, especially the bacilli. The vagina always contains micro-organisms in great abundance. He also gives in a table a comparison of the twenty-seven forms of bacteria, which he has found in the genital canal. Inoculation experiments with the three forms of staphylococci and streptococci which he identified, gave negative results. In his opinion the practical results of experimentation point to the necessity of the strictest measures of vaginal disinfection, because he believes that the germs present, though of weakened virulence, are able to reacquire their potentiality under certain indeterminate conditions and thus give rise to self-infection, so-called.

There is small room for doubt that the chief danger of infection, incurred by the puerperal patient, lies in the direct conveyance of noxious germs to the wounded surfaces of the genital tract, which are always present even after the easiest labor. It becomes then a matter of the utmost importance to take heed that whenever it is necessary to introduce the finger or an instrument into the patient's vagina, the same be most scrupulously disinfected. As we have no ready means of testing the perfection of our efforts at disinfection, and as we know that our hands are particularly difficult to disinfect, it is evidently most highly advantageous to our patients to spare them all unnecessary manipulation.

It is my purpose now to offer what I believe to be the essential desiderata of a well managed case of normal labor.

The prophylaxis of childbed fever should begin during gestation. The patient should live as far as possible in the midst of good hygienic surroundings and should bathe frequently, especially toward the end of

gestation. The lying-in chamber should be well ventilated. The bed should be clean and a plentiful supply of sheets and towels should be provided. The external genitalia should be washed with an antiseptic solution after labor has set in, and care should be taken that the bladder and rectum be emptied. The physician should make as much as possible of the external methods of examination to the partial or complete exclusion of internal manipulations. The physician should always be provided with disinfectants and a nail-brush sublimate by preference, for the disinfection of his hands and arms, and carbolic acid for such instruments as may be needed. Above all other considerations I place the adequate disinfection of the physician's hands, and I am convinced that there are physicians whose hands have never been properly disinfected because their possessors are ignorant of what constitutes adequate disinfection.

Aside from all considerations of the patient's ultimate welfare, the genital tract should as far as possible, be protected from unnecessary lacerations, abrasion and contusions, as tending, of course, to securing a relative immunity from infection, and I am firmly of the opinion that these desiderata are highly promoted: First, by endeavoring to maintain the integrity of the membranes as so ably advocated by Dr. Henry Byford; and second, by causing the patient to maintain the lateral decubitus during labor, at least if she be a primipara. Perineal laceration may sometimes be avoided by a skillful employment of the method which enables one to promote the expulsion of the head, and is practiced by introducing the index and middle fingers through the patulous anus until the chin or mouth of the child is reached, and then exerting pressure in the direction of the symphysis. Furthermore, the head should be held back until the perineum has been suitably distended. It should be controlled, in fact, until the occiput has advanced quite under the symphysis, at which time it is in position to escape from the soft parts with its smallest diameter. The head should not be born during a pain, but in the intervals of the pains, and when the supra-orbital eminences are visible the perineum should be rapidly swept back over the face of the child by the physician's right hand, the left meanwhile being occupied in drawing the head back over the symphysis.

It is better not to tie the cord until after it ceases to pulsate, when it should be secured in two places, and cut between them, not only because of the possibility of a plural pregnancy, but because a placenta full of blood is in a more favorable condition for expulsion than a collapsed one.

One should not be over-anxious or impatient with regard to the third stage of labor, but should be content to wait until the uterine contractions have had time to loosen the placental attachments when the muscular action of the uterus may be aided by Créde's method of expression, or even by concomitant, though gentle traction on the cord after separation has taken place. The placenta having been expelled, it should be rotated a number of times so as to twist the membranes into a cord, with a view to effecting their complete removal.

To secure the complete extrusion of the secundines is a most important consideration, comparable even in its bearing upon the remote consequences to the woman, with that of managing the delivery of the child, without unnecessary laceration of the soft parts, for I believe that endometritis may often be directly traced to their imperfect expulsion at the time of labor. It has often occurred to me that the placenta comes away more readily and more perfectly in the case of primipara, though I am not sure that this is a general observation. To my mind, however, a placenta with a smooth, maternal surface, and without an excessive development of connective tissue, augurs well for the patient's subse-

quent health, to say nothing of its promise of a normal lying-in period, and accordingly when I am not satisfied that the secundines have been completely discharged, I endeavor to remove the fragments, often with the curette first, because a simple instrument can be more efficiently disinfected than the fingers, and secondly, because I can more thoroughly accomplish my purpose with its aid, especially in cases of abortion, where the placenta is apt to be especially adherent.*

If relatively extensive lacerations of the cervix or perineum have occurred they should be closed at once by a suitable operation, which, if carefully performed, yields excellent results. I have secured the complete union of a moderately lacerated perineum without even douching the vagina subsequent to the insertion of the sutures.

If the patient has entered upon a normal puerperium, after a satisfactory termination of labor, if no reasonable pains have been spared to shield her from the dangers of infection, and if the uterus has been completely emptied of its contents, there remains little to be done save to keep the patient clean by allowing the discharges to be absorbed by clean dressings (which should be frequently changed) and by washing the external genitals with antiseptic solutions. Uterine, and vaginal douches alike, may be safely dispensed with, unless distinct indications should arise for their use. The patient should be allowed to rise from her usual position in bed to evacuate the bladder and bowels, in order to favor the expulsion of blood clots, etc. It should be our aim to manage a case of labor with the idea that it is a physiological, and not a pathological, phenomenon.

If, however, in spite of all well-directed efforts to promote a normal puerperium by shielding the patient from the dangers of infection, the patient gives evidence of the dreaded symptoms which are so well known, there is no time to be lost. Watchful expectancy no longer avails. Activity is imperatively demanded. Prompt curetting of the endometrium has yielded excellent results in the experience of many physicians, and, having tried it myself, I have been extremely well pleased with the results. Its applicability, too, is by no means limited to cases where large masses of placental tissue have been retained, but, on the contrary, the most satisfactory results have often been obtained in cases where the third stage of labor was quite normal. Before and after using the curette the vagina and uterine cavity should be thoroughly irrigated with a suitable solution.

A single application of this method is often productive of the most satisfactory results. I have seen numerous cases where the temperature, previously very high, fell to the normal point in a few hours after this treatment, without subsequently rising. It is not necessary to suppose that in all these cases true sepsis is prevented, for the symptoms are often referable to putrid intoxication, and it is no doubt these very cases which are most markedly and most permanently benefited by curetting. I prefer the Sims' curette for most cases, believing that with many of the other forms it is impossible to reach all parts of the endometrium.

It is a matter of common observation that uterine douching once begun requires to be often repeated. The insertion of the uterine nozzle, however, is by no means always an easy procedure, and it is often attended with considerable pain to the patient. On the other hand curetting is a simple procedure, one which requires very little in the way of preparation, while it often accomplishes more than any number of uterine irrigations, and does not need to be repeated if properly performed. I have curetted the uterus after abortion without other assistance than that offered by the patient herself.

*Hoag. Some Considerations Regarding Death of the Fœtus in Utero. Trans. Chicago Gyn. Society, March, 1888.

Ergot is theoretically, and I believe practically as well, an important agent in the prevention of septic and toxæmic absorption. Quinine has long been held in high repute in these cases, but its efficacy has been positively denied by writers of eminence.

It is often necessary to direct treatment to the reduction of temperature. This may be well accomplished by the cold water treatment, or by the application of ice to the abdomen, in which situation its action is also favorable to the limitation of absorption, and to the prevention of tympanites. Antipyrin may be employed with good effect, its depressing action being guarded against by the free use of stimulants. There are possible sources of danger in the use of antipyrin from the fact that its chemical reactions are very imperfectly known. Mr. William Dyche, a skillful chemist of this city, informs me that he has observed the formation of an aniline green from its reaction with spirits of nitrous ether. He also observed a similar reaction in a mixture containing bromide of ammonium and bromide of potassium, though this occurred only when the ingredients were dissolved separately.

I have not had much experience in the treatment of peritoneal inflammation by the free administration of salines, but am inclined to regard it as a useful innovation on the old routine of "locking up the bowels" with opium.

There is a subject upon which I believe too little interest has been awakened in the discussions of the obstetricians, and that is the morbidity of patients. Almost every physician can glance over his records and produce a long list of obstetrical patients which did not die, and a very short list of the ones that did. But it is much more important to consider what proportion of the patients passed through a normal puerperium. Most of our information on this subject comes to us from gynæcological sources. I have no statistics to present, and can only say that I have often been astonished at the frequency with which one can find pelvic exudates, and their remains if he look for them. I have often examined 20 or 30 gynæcological cases in a day, nearly half of which gave evidence of this form of disease in greater or less degree. If, as some have claimed, the lying-in patient's attendants are to be held responsible for most cases of septic infection in its worst form, upon whom is the onus to fall in this other, and vastly larger, class of cases! This may not be an easy question to answer, but at all events a boast that that one has practiced obstetrics for a term of years without losing a patient from puerperal fever, does not amount to very much when one considers the origin of pelvic exudates.

In this connection I have often thought of the rôle played by the midwives who control such a large proportion of obstetrical practice. There are midwives in this city who boast of having attended 7, 8, and even 9,000 cases of labor. Some of them are doubtless admirably qualified for their occupation, but we have all, no doubt, seen midwives, who enjoy a large practice, and yet are wholly without the necessary qualifications for attending the simplest case of normal labor without exposing the patient to very grave dangers.

I have no wish whatever to pass criticism upon our civic authorities, but I have found food for meditation in the information that a knowledge of the uses of antiseptic agents forms no part of the requirements exacted of the midwives in this state. I do not know whether the relations are different in other parts of our country, but it has occurred to me that it would be both eminently useful, and entirely practicable, to furnish each midwife with printed instructions regarding the ordinary measures of hygiene to be observed in the lying-in room. Certainly the "effete monarchies of the east" protect their women with far more zeal than has ever been displayed in the

United States of America. In Germany and Austria, for example, not only are the midwives carefully qualified for their occupation, and closely watched in their conduct, but their duties are minutely explained in a book of instructions, and the greatest possible stress is laid upon the proper use of antiseptic agents, as well as upon more general points of hygiene. Judging from expressions which one often hears on the part of medical practitioners, I am by no means sure that a perusal of such literature would not be productive of great good to a certain class of physicians as well.

Dr. J. S. Knox: I was very much interested and very much pleased with both papers. I fully endorse the first one; I am an absolute believer in anæsthetics in labor. I believe many a patient suffers from a long, tedious lying-in simply from a painful labor, and I believe in the proper use of anæsthetics to control the pain; it gives the woman confidence and is an advantage both to her and her child. It has been a rule of mine to administer the anæsthetic as the child begins to extend the vulva and fully distend the perineum; always when I fear the rupture of the perineum. For an anæsthetic I never use anything but chloroform. I am satisfied of the ill effects of ether upon the kidneys, and as most lying-in women have a tendency to nephritic congestion, I think ether should never be used in labor, unless the woman is so depressed that chloroform is contra-indicated.

In the second paper I would find one fault, that is in regard to its advocacy of the curette. I am positively opposed to the growing use of the curette at term. A gentleman who has recently returned from Europe told me he had seen several autopsies on women who had been curetted after labor and in two instances he found the uterus perforated. I recently read, with great surprise, a paper by an obstetrician of this city in which she stated that she had perforated the uterine wall in one case, the lady leaving her office and going home, without ill result, and therefore she thought the curette was not dangerous, even if it did perforate the uterine wall. I do not see how it is possible to curettte with success the uterine cavity at term, without risk of perforation; if you remember that the uterine wall is only three-eighths of an inch thick after parturition, you can see that the curette would easily go through it. Then again my objection to the curette is, that I do not believe it accomplishes good if the uterus is fairly septic. I endorse most heartily the doctor's remark in regard to intra-uterine and vaginal douching. In normal labor I see no necessity for them. If the physician is thoroughly clean, disinfects his hands and manages the labor properly, the woman ought to go through without fever or sepsis, or douching. I agree with the doctor, that, where the indication arises for the intra-uterine douche, it should be used immediately, but I question as to what is the indication. How can one tell positively that the sepsis arises in the uterus? I confined a patient ten or twelve days ago who had suffered from neuralgia for several days, and was exhausted from loss of sleep and pain. Her labor was painful and instrumental, and after labor, within twenty-four hours she had pale features, a temperature of 105° and a good deal of abdominal tenderness. One would say these were indications for the intra-uterine douche—chills, extremely high temperature, sweats, pinched features, and tender abdomen; yet I was so positive that I had managed her case aseptically, and that her condition was due to nervous shock, that she was simply given stimulants and opium and kept warm, and in thirty-six hours she was comfortable. I am sure that if I had gone to work and douched her I would probably have inoculated her. If I had a positive indication that the uterus was septic I should certainly use the douche, but until positive I think there is more danger in the use of the

intra-uterine douche than in its non-use. Our President saw with me a case of inversion of the uterus due to a large fibroid of the fundus. I was first called in consultation to see the case. The inversion occurred with excessive hæmorrhage. I succeeded in restoring the inversion and checking the hæmorrhage but could not get back what was apparently a portion of the fundus. When Dr. Etheridge saw the case the capsule of the fibroid had ruptured and it was undergoing decomposition, and during the next week the uterine cavity was constantly putrid. Intra-uterine and vaginal douches were used and she made an excellent recovery. The doctor who managed the case told me that during confinement he had thoroughly disinfected his hands with corrosive sublimate, and during all subsequent examinations the hands were made thoroughly aseptic. The intra-uterine douche, when it was used, could not destroy the putridity of that cavity while the fibroid slowly sloughed away and was discharged. If such conditions can exist in the uterus and the woman make a recovery, I fail to see the need of the intra-uterine douche for the ordinary febrile disturbances, so common during the lying-in period.

Dr. Frank Cary: I was very much interested in the first paper, but I can hardly agree with the author as to the use of anæsthetics so early in labor as I understood from the paper he recommends using them. As regards the majority of practitioners not using anæsthetics in labor, I think that it is true, but I think some of the younger men of to-day give chloroform to an extreme. I recently saw a patient to whom I found a young gentleman in attendance, giving chloroform nearly to surgical anæsthesia, in the first stage. As the case was mine he turned it over to me; I stopped the anæsthetic and it was nearly fifteen hours before the patient was delivered. As to using chloroform in the second stage when the head is passing over the perineum, I freely endorse that mode of treatment. As to saving more, or as many patients without antiseptics, I most surely do not believe it, for I think that antiseptics in the practice of obstetrics is fully as important as in surgery or gynæcology. Most of these patients after confinement are in a condition to absorb septic matter by reason of solution of continuity in different portions of the tract, as well as the denuded portion in the uterus after the removal of the placenta. As to the use of the curette, I agree in a great measure with Dr. Hoag. I should criticise Dr. Knox's remarks on the use of the curette, after the manner of Dr. Fenger while uniting a radius. Being told that it had been united by several other physicians, he replied "it makes a great deal of difference who does it." A physician may scrape a hole through the uterus with a curette; I know a gynæcologist in this city who has done it several times; but I do not think it is necessary. If the placenta has not thoroughly come away and sepsis has developed, I see no reason why we should leave that decomposing mass. But if we have removed it and got down to living tissue, then we can rationally use an antiseptic in the uterus. I do not believe in ever douching a patient unless it is called for, and by saying that it is "called for" I mean when the temperature goes up to 104 or 105, with offensive lochia and reason for supposing that we have decomposition going on in the uterus; I should most surely then use an intra-uterine douche. Dr. Knox said that in a patient he had the other day the temperature went to 105, there was delivery and collapse, but that he did not use an intra-uterine douche; I should most surely have done so. Moreover he said that if he had done so he would have inoculated the patient; I see no reason why he should have, if he had taken the proper precautions. Within the past year I had a physician come into my office and tell me he had just come from giving an intra-uterine douche, and three minutes after he told me he had been to see a patient with

erysipelas. He told me afterward that he came near losing his patient. I believe that patients are frequently made septic by the nurse. Within the past year, in hospital practice, I had a case where the temperature ran up to 105. The most careful antiseptic precautions had been taken, and I said it was my fault or that of the nurse —I found that the nurse had been taking care of a septic case at the same time. I required that the vulva should be covered with an antiseptic dressing and the nurse had been changing that gauze after attending the other case which was septic. This patient had a temperature of 105, with pelvic exudate, which, however, subsided without suppuration.

Dr. William E. Clarke: I have used both ether and chloroform in labor, and I am sure from my observation that their use does retard labor to such an extent as at times to endanger the life of the mother and child. I am very sure of this, and yet the pressure is so great, the desire of saving pain occasionally compels me to use them. If, however, the patient will consent to wait till I advise an anæsthetic, there will be many that do without it. I have known cases where labor seemed to be suspended by the use of an anæsthetic, but upon its withdrawal, the pains came on, successfully terminating the labor. I was called a short time ago, in a case of prolapsus of the cord, where the patient was under an anæsthetic. When I arrived the pains had ceased, and I believe the chloroform had arrested the labor.

I agree most heartily as to the importance of antiseptics. Some things have been said in the discussion that I cannot quite understand. Why should a practitioner be so particular in the personal use of antiseptics and yet think that he could leave his patient with the uterus loaded with septic, decomposing matter, and expect a perfect recovery? In the case mentioned, it must have been disposed of, in some way, and I believe if it had been removed by the curette and douche it would have very much increased the chances of life. I use the douche when it is called for. A man would be silly and criminal to use it, or any other powerful instrument, when not called for. I use it whenever I think there is septic matter within the uterus. The results, as far as my observation goes, have been successful. I should use the curette when I thought it necessary. In fact I used it before I saw one made by an instrument maker. I made use of a double canula with a watch-spring passed through it, making a loop. Of course in using such an instrument, now, with our knowledge of sepsis, we should be very careful that the tubes of the canula were perfectly aseptic. With the movable loop you can not only scrape out the uterus, but engage and remove fragments of membrane or other matter that may remain.

Dr. L. T. Potter: Concerning the use of chloroform to the so-called surgical degree, in the second stage of labor, it strikes me that it is not advisable. The objections raised, and perhaps sustained, by the majority of the physicians to-night, that it retards the labor, is not the only objection. The objection to the use of chloroform is the great danger of post-partum hæmorrhage. Under the relaxed conditions of the muscles of the mother it is not essential in order to mitigate pain to give it to the surgical degree.

In criticising the second paper, Dr. Knox has said that he is unalterably opposed to the curette, but in favor of the douche. I am unalterably opposed to the douche, but in favor of the curette. In the use of the douche there is great danger, if there is a septic condition of the uterus, of driving, by a *vis a fronte*, that sepsis up the Fallopian tubes and giving rise to abscesses and other grave consequences. There is a proper and an improper use of every instrument, but if the curette is used properly, and with great care, it is of marked service in abortions, where, perhaps, the uterine

walls are not quite as thin as immediately after labor at full term.

Concerning the use of antipyrin in reducing the temperature, I have experienced some grave symptoms in its use; whether it has been due to an impurely manufactured article, it is impossible for me to say. But I recognize that antipyrin is the product of coal tar, and, like carbolic acid, capable of producing a deleterious effect upon the kidney. I have already, in two cases, from the use of five grains of antipyrin every two hours, produced the same condition inside of eighteen hours: blood in the urine, and actual suppression of the urine, which, upon the withdrawal of the antipyrin, has been relieved and the normal condition of the kidney resumed. Concerning the other statements in Dr. Hoag's valuable and scientific paper, I most heartily endorse all he has said.

Dr. James G. Kiernan: It is well known that there are many conditions of mental excitement following labor. In the greater part of those cases the exciting etiological element has been, no doubt, the pain and anxiety attending labor, and very probably to the previous condition of the patient.

It has been my fortune—and my experience has been that of a number of others—to have seen a form both of melancholia and mania which was not a puerperal insanity, following labor, and which was prevented by the use of anæsthetics in subsequent labors. It seems to me that under such conditions the use of anæsthetics would be justified.

With regard to ether, I have seen three cases in which there was no doubt that the insanity was directly precipitated by the use of ether.

Dr. Hoag correctly remarks that antipyrin in combination with spirits of nitrous ether, has produced a peculiar greenish product, but more recent experiments have shown that this decomposition of the antipyrin was due, not to the nitrous ether, nor to the potassium bromide, nor to ammonia, but to the fact that both contain acid. When nitrous ether, made according to the United States Pharmacopeia, is used there is no precipitate. It should be remembered, too, in regard to bromide of potassium and ammonia, that both contain sulphurous acid. At the same time it is true that with the increased demand for antipyrin the color manufacturers who originally introduced the article, are making it with great rapidity, which produces a great tendency to decomposition, and the experience that it has produced poisoning, similar to carbolic acid, is not unique. But it should be remembered that there is no antipyretic but must, at some time, under some circumstances, produce untoward effects. These are likely to be either cardiac depression, or a peculiar skin eruption. In point of fact these peculiar conditions have followed the use of every one of the new antipyretics. They have been observed with quinine and thallin, and are very likely to follow the use of every other antipyretic.

Dr. C. W. Earle: It seems that one of the questions is in regard to the time we should commence to give an anæsthetic in a case of labor, and I quite agree with Dr. Cary that it is almost bad practice to commence too early. To commence during the first stage and fill the patient full of chloroform, when it is impossible for him to know whether the labor is to be terminated in one hour or twenty-four, is all wrong. He not only places the woman in a possibly dangerous condition during this stage of labor, but is giving an agent which, to my judgment, predisposes to post-partum hæmorrhage. I am not sure but that if the child is immature and puny, its life also is endangered. My practice usually is to commence the anæsthetic in the latter part of the second stage, when the head presses well against the perineum.

There is one question in regard to the use of opium during the post-partum period I wish to raise, although it is foreign to either of the papers. Do we endanger the

life of the baby by giving an opiate to relieve the after-pains of the mother? I will tell you why I ask the question. I delivered a child on the South Side, in a family where the arrival of a girl baby was hailed with the greatest possible delight. On my second visit the nurse, who is one of the most intelligent and well trained nurses that I have on my list, told me the after-pains of the mother were rather severe, for which I did what I have done a hundred times before, prescribed deodorized tincture of opium in fifteen to twenty drops every two to six hours, according to pain. I believe this is a perfectly safe dose. That evening fifteen drops were administered, but the lady continued to have pains, and in two hours twenty drops more were given. The next morning the baby was discovered to be in a collapse, and in the afternoon died. I did not see the child, as I was attending another case, but I understand that it was cyanotic and convulsed, and the general impression made by the attending physician, with which I believe the nurse coincided, was that the opium taken by the mother caused the death of the baby. I would like to know the experience of other members of the society in regard to the administration of opium for after-pains. I took pains to look up the literature of the subject and found that it is the practice of every one, so far as I know, and yet I have learned of one other case, in the practice of a physician, where the child died of convulsions, and the only cause that could be assigned was a few drops of some of the anodyne preparations of opium given to the mother for after-pains. If anodynes given to quiet after-pains even in a minority of cases are dangerous to the babies it is time that the medical profession was aware of the fact.

In regard to antiseptic obstetrics, it is well-known to every member of this society that I believe antiseptic obstetrics can and is saving a larger number of lives than can be saved in both the departments of medicine and surgery. The mortality for a great number of years in hospitals has been fifteen per cent. or one hundred and fifty in every thousand. This has been so reduced that in the Vienna Hospital, where they confine ten thousand women annually, they lose only .58 of one per cent. What the mortality has been and now is in private practice is not, and it appears to me, can never be known. Dr. Hoag tells us that if some of the membranes or a very small piece of the placenta was left in the uterus he would either curette or give an intra-uterine douche, or remove it with his fingers. Why is this necessary? If the patient is absolutely aseptic, the nurse aseptic and the doctor aseptic, and all the surroundings aseptic why not let the debris alone to come away itself perfectly sweet and clean? I delivered a case recently where part of the membranes were left and I did nothing: I believed the woman would do better to be kept perfectly clean and let alone. I ordered an antiseptic pad to the vulva, occasional douches, and boracic acid or iodoform to the diseased tissues at the outlet, and in five days everything came away perfectly clean. Now I believe this woman was much better off than she would have been had I introduced my finger through the os and detached the membranes, or had given her a douche, or had curetted her. I am in favor of douches when they are required and in some cases always, particularly after operations have been performed.

Where a single stitch is put in the perineum the woman, in my judgment, will be safer if we give douches. It has seemed to me that where I restored the perineum and douches have been withheld, that the woman has not done as well as when they are given and repeated every twenty-four hours, for four or five days until every possible chance of damming up of the lochial discharge has passed away.

I believe in curetting, but I think the person doing it should know exactly what he is about, and I do not believe every

person should be provided with a curette and proceed to do the operation at the first rise of temperature, unless there are special and definite indications. Sometimes a rise in temperature takes place when it is not necessary to curette. If it is done, however, it should always be performed with proper instruments, in a scientific manner and with all antiseptic precautions. Curetting after abortion or after labor at full term is altogether a different procedure. After abortion some most remarkable results occur. The recovery in most cases is particularly rapid. In some of these cases where the secundines and pieces of placenta remain, the temperature high and the woman going through the different stages of sepsis, a single curetting properly done (always giving an intra-uterine douche before and after), and covering the lacerated and bruised parts with either boracic acid or iodoform, will remove the patient from a dangerous condition to one of safe convalescence. After labor at full term there are large sinuses which are gradually closed by the thrombi. These thrombi are gradually organized and by the shrinking of the sinuses are obliterated. Now it has appeared to me that curettment of such a uterus may open some of these sinuses, may cause some of these thrombi to enter the circulation, producing alarming symptoms. This, then, is why I think curetting the uterus after full term should be carefully considered before it is performed.

Dr. A. E. Hoadley: I am a great friend to the anæsthetic in labor. I never refuse to give it when there is an indication for it. I am always perfectly willing to give it in the second stage, and my choice is ether. I make a cone suitable for the purpose, and pour in a little ether, and hand it to the patient, and instruct my assistant to put in a little as long as the patient can hold the cone. She is perfectly satisfied; she is conscious of every pain; it does not seem to retard labor. I have never had any ill effects from ether, and they can always take ether if they want an anæsthetic. After they have had a little ether and are getting along toward the close of the second stage, if I think there is any indication for full anæsthesia, four or five rapid inhalations of fresh ether will put the patient into a surgical condition of anæsthesia, or sufficient for practical purposes. I do not give chloroform often, not one case in ten where I do ether. I am satisfied with ether. Chloroform I have to administer myself, and watch it all the time. I have given ether almost continually for six days to an obstetric patient, without any ill effects. But then I do not approve of giving it early, and only give it when it is needed.

In regard to antiseptic obstetrics, I can only add my testimony in favor of the most thorough antiseptic precautions in obstetric practice, and when there is an indication of decomposing secundines in the uterus, I do not hesitate to remove them with the douche and curette. I almost always make use of cotton swabs with the douche. As I am douching the uterus I can wipe the entire surface of the uterus with the cotton. I am not afraid of wiping a hole through it, and I am not afraid of scratching a hole through it with the curette. It is only necessary to loosen these decomposed plates of membrane and wash them out. The physician who puts a sharp curette into a uterus after full term I think does an unjustifiable operation. A blunt curette, and that handled lightly, would, in my experience, be quite sufficient to remove the secundines, and I have good results follow such operations.

I will confess to a practice which, perhaps, is my own, that is in regard to removing the placenta. I commenced early in my practice to remove the placenta immediately after delivery, and have continued doing so up to the present time. I always intend to remove the placenta immediately after separating the cord. I do not wait for a pain. I never had any diffi-

culty in removing the placenta. It comes away promptly, and without trouble to the patient. I am perfectly satisfied with the procedure, and shall probably continue to use it, with all due antiseptic precautions, of course, at the time. I remove it by gentle traction on the cord, and by hooking down one side of the placenta with the finger. In those cases in which it has been necessary to remove the placenta fifteen minutes or half an hour after the termination of labor, I have had difficulty, but immediately on separating the cord I can remove the placenta without difficulty; it comes away very easily.

Dr. L. A. Harcourt: I have attended about two thousand cases of obstetrics, and I know that I have not used either chloroform or ether more than fifty times. I know, too, that the cases in which it was not used made as good a recovery as those in which it was used. I am in favor of using it when there is an indication for it, but I recognize the fact that labor is a physiological process, and under ordinary circumstances no anæsthetic is required. I use it under two or three conditions: *First*, if the os uteri is rigid, and the pains excruciating, then I think an anæsthetic is useful. *Second*, if the perineum is rigid toward the close of the second stage in labor, an anæsthetic will help to prevent its laceration. *Third*, in puerperal convulsions, I certainly should use it.

I think the curette should not be used for the purpose of removing the entire placenta, but it is justifiable to use it to remove the debris. One of the speakers this evening said that septic fever is always the result of ignorance, or negligence, on the part of the practitioner. It seems to me that statement is a little too sweeping, and that there are other sources from which septic poison may arise. Many of the poorer classes call in their mothers, or sisters, or aunts, or neighbors, during the lying-in period, and these people hesitate, and almost refuse, to put anything clean about the patient. I invariably instruct them that nothing must be put near the woman that has not been thoroughly boiled, and is not absolutely clean, and I explain to them that there is no use in my trying to use antiseptic precautions if they do not, or the nurse does not. The two or three cases of puerperal fever I have had in 20 years I am satisfied I could trace directly to the attendant.

In regard to the administration of opium for after-pains, I have used it until within the last six years wherever it was required, and very seldom has it been required since I began practicing Créde's method of removing the placenta. My patients hardly ever have an after-pain, and I believe if that method is successfully practiced, after-pains will grow beautifully less, and there will seldom be occasion for the administration of an anodyne to relieve them. It seems to me that in the case in question, there might have been some other cause than the administration of the deodorized tincture of opium. I have been in the habit of giving grain $\frac{1}{8}$ of morphia with what would be the equivalent of about gr. 7 of bromide of potassium every three or four hours, as required, and have never found any unpleasant symptoms result from the practice. In some cases I have given a good deal more, and frequently where there was a great deal of pain, or metritis, I have used a hypodermic injection of grain $\frac{1}{3}$ of morphia, without bad results to mother or child. In most cases the secretion of milk is rather scanty until about the third day, and in case the child dies on the third day, it could hardly have been poisoned by opium.

Dr. H. M. Scudder: If a patient takes chloroform well I feel perfectly safe in giving it early; as soon as the os has begun to dilate freely: and my experience has been that if carefully administered it will not interfere materially with the progress of the labor. If we begin to give chloroform early in the first stage, as we some-

times have to do with nervous patients, and those threatened with puerperal convulsions, we must be ready to use "Barne's bags," and to apply forceps, as the chloroform may seriously delay the labor.

I am strongly in favor of giving it in the second stage of labor. There has not been much said in reference to the way that it is given. I suppose it is usually given on a handkerchief. That is the way I used to give it, but I think the use of an inhaler is much more satisfactory.

By the use of the "inhaler" during the course of each pain, but not in the intervals, I think I am able to give my patients more relief from pain than I can by administering the chloroform in the ordinary way on a handkerchief, or by the use of a cone. I feel confident that the inhaler enables me to control the pain with less chloroform than I had to use when I gave it on a handkerchief. Although I have given chloroform in a large number of labors, I never had a case of serious puerperal hæmorrhage which I thought was attributable to the chloroform.

In reference to the curette, I agree more with Dr. Knox than with those who are very liberal in the use of it. I think the distinction Dr. Earle drew is a good one. There is not much danger in the careful use of the curette in cases of abortion. You can use the curette freely in abortion where you could not use it to the same extent in a puerperal uterus after labor at term. I prefer, before using the curette, to be perfectly sure that the uterus is septic. I prefer, generally, to use the douche first, and if this does not have the desired effect, to use the curette.

Dr. J. Frank: I cannot agree with the author of the first paper, that giving chloroform hastens confinements. My experience is that it retards it. I can safely say chloroform given to the surgical stage or near it decidedly retards labor.

I would recommend chloroform to be given with a great deal of caution to the stage of tolerance. If it is intended that the narcotic be given to the surgical stage, I would advise the accoucheur to keep his finger in the vagina on the uterus, or the hand on the abdomen, if the head is engaged under the pubis, as the safest and quickest means of knowing how the uterus is acting.

It might be said that there is danger of sepsis if the finger is kept in the vagina; if everything about the patient and the attendant, and everything used is antiseptically cared for, there is no more danger of infection from keeping the finger in the vagina, than there would be from any major surgical operation.

I am very glad that exceptions have already been taken by a previous speaker to a statement made by a critic on the second paper of the evening, that if puerperal fever is developed after a normal physiological labor, it is the fault of the physician attending. This is very strong language, and places every physician who undertakes a case of labor, in a delicate position, not only with his patient and her friends, but with the law. This question has caused hot debate in medical circles all over the world, and the conclusions therefrom have been: "It is not the physician's fault, unless he knowingly carries it to his patient." Noeggerath (some years ago) has shown that a great many cases of puerperal fever developing after confinement was due to a latent gonorrhœa in the woman, and I am fully satisfied in my own mind that there are many such cases. I have seen myself, two cases where puerperal fever was caused by a latent gonorrhœa in the woman, transmitted to her by her husband; the wife of course did not know anything about it. I had previously treated both of them for gonorrhœa. Both women recovered after weeks of illness.

As far as antisepsis is concerned, I am a thorough believer in it, not so much in the different chemicals used as to thorough cleanliness, no matter what is employed.

DR. H. P. NEWMAN: It would seem, in the discussion here to-night, that the objections were largely to the indiscriminate or improper use of anæsthetics, the curette and intra-uterine douche. It goes without saying that either of these three measures are harmful when injudiciously used, and certainly when used without discretion or proper indication, but they have their place in obstetric procedures. It has been said, too, that child-birth is a physiological condition. True! but our women, many of them, are in anything but a physiological condition at the time of child-birth. Particularly is this the case in cities, among women who live more or less artificially, and it is in this class of cases that we are called to use anæsthetics in a manner which would not perhaps be indicated in more robust, healthy women from the rural districts. I refer to the condition of nervous irritability which frequently occurs even in the beginning of labor. It has probably been the experience of every one here practicing obstetrics, that in certain women of a high nervous organization, the onset of the pains causes an overpowering dread and nervous excitement, which, acting through the sympathetic system, directly upon the uterine nerves of cerebro-spinal origin, disturbs their rhythmical action, preventing dilatation of the cervix, which contracts down upon the presenting part and arrests the progress of labor. Here I think is an indication for partial anæsthesia, that is if we use chloroform simply to allay this nervous irritability, and to quiet the anxiety of the mother; the inhibitory action of the nervous system will thus be overcome, and labor will progress, usually, without further interference. The same may be accomplished, possibly, by the use of other sedatives, perhaps an opiate as is popular with many physicians. But chloroform is indicated here and has done me good service.

The authorities, I believe, are generally united on the use of anæsthetics in the second stage, particularly in the latter part of this stage, and certainly profound anæsthesia should not be pushed before that time.

We ought to judge of our obstetrical cases not simply from our mortality list, but from the condition in which the woman is found subsequent to delivery. There is a vast amount of mischief done which of course does not result fatally, and which is not tabulated or reported. We flatter ourselves that if the difficult, or complicated case goes through without the loss of life it counts so much in favor of the judicious use of instruments, anæsthetics, the curette, douche, etc. I think this is a mistake. Those who practice gynæcology will find a vast number of these cases presenting themselves at the end of a few weeks or possibly months, with indurations and exudations about the pelvic organs, and with other evidences of mischief that occurred during the birth of the child and subsequently. These things ought to be considered in the judicious management of an obstetrical case, and not simply the mortality rate. I am in favor of the curette and intra-uterine douche when indicated and properly used, but their indiscriminate and injudicious use is to be deplored.

DR. E. B. WESTON: I think it is evident from the discussion this evening that anæsthetics are not used very freely and that the teachings of this society will not lead to their abuse, as the author of the paper on "Modern Views of Obstetrics" does not even mention them. It is also evident from the interpretation my paper has received that the members think I am very partial to them, which is a fact; but as I stated in the paper, in the first stage of labor chloral and opium have their place. That is not usually the place for chloroform, but in some rare cases where the patient is very nervous, almost convulsed, as you occasionally see them, then a few whiffs of chloroform will quiet them and the chloroform can be removed and the patient pass on for

hours without its further use. I stated that even in the second stage anæsthesia was not to be pushed to the surgical degree until the last, except in rare cases. I stated that expressly; but I do believe that for a time immediately before the birth of the child the patient may be kept unconscious with perfect safety, and the pains go on with regularity, and the labor not be delayed. I believe the use of an anæsthetic in the final stage does save a great many patients, and does make the after use of carbolic acid or the bichloride of less importance; that is, if you can save an extensive laceration, as yon certainly can in a great many cases, you prevent the occurrence of an opening which will give ingress to septic material, and in that way you avoid puerperal conditions for which you afterward have to use antiseptics so freely. I would in some cases use the first stage of labor, and afterwards freely up to complete anæsthesia, if need be. But it is the patient's condition and not the stage of labor which should decide when and how to use the anæsthetic.

Dr. J. C. Hoag: There are a few things I wish to say. In the first place, with regard to the way in which I have been misquoted. I was very particular to say that I did not regard every case of infection as attributable to the physician. I do not believe it for a moment. I was also quoted as saying that the physician, and not the attendants, infected the patient. I used the word attendants purposely so as to include the nurse, mothers, aunts, neighbors, etc. The statement has been made here and elsewhere that in nearly all cases of septic infection it is due to the septic matter on the physician's hands or instruments. I have never made this statement.

My experience with the douche began about six years ago, and I have had rather an extensive experience with it. When I was still an interne in the hospital I was required to give intra-uterine douches of large quantities of water every three hours day and night, for several days, so that two patients was all that I could attend to. I found that it is not by any means an easy matter to give an intra-uterine douche in all cases; sometimes there is great difficulty in inserting the nozzle of the syringe, and a great amount of pain, as well, to the patient. So that the pain is less in treatment with the curette than with the douche, because the curette does once for all, whereas the douche has to be frequently repeated. The gentlemen at first seemed to point out the dangers of the curette very vigorously. I wish to have a few words to say on this subject. What they seemed to have in mind was a large, flabby uterus, that had not begun to contract, and that had extremely thin walls. I particularly pointed out the applicability of the curette in cases of abortion. Dr. Potter was the first to take this up and point out that the uterine walls in abortion are thick. I remember a case where I curetted the uterus after abortion, and finding the next day that the organ was still large, I wondered whether I could have left in there any considerable amount of placental tissue or any part of the fœtus. It did not seem possible, although the curetting was done under rather difficult circumstances. So I made an examination and passed my finger clear up to the fundus and got the uterine walls between my two fingers, and was perfectly astonished to find how thick these walls were. It would have been as difficult to force the instrument through that uterine wall as through a person's cheek. Blunt curettes have been spoken of, but a blunt curette may be of a very small diameter, and in that way it would be possible to pass it through the uterine wall. The instruments I speak of are very broad, and their scraping surface is more than half an inch, and it would be very difficult to pass an instrument like that through the uterine wall. The curette seems to some too difficult to use. I have not found it so. I have seen it used in the hands of very expert operators, and in the hands of

very inexperienced operators, and I have learned as much from one class as from the other. It should be used with care, but I have not had any feeling of uncertainty in using it. I use it carefully, and control the uterus by holding it with a double tenaculum.

Dr. Earle, I think, rather took me up with regard to bits of retained membranes, etc. I think if the patient is properly attended in labor you can leave tremendous pieces of placenta and membrane in the uterus, without injuring the patient, if she is in an aseptic condition. I may say that the retention of placental tissue may give rise to bad results in the end, as sometimes they are retained indefinitely and result in the formation of polypi, or fibroid tumors. I have been interested in finding out why women abort so frequently. We generally attribute it to traumatism, but I do not think that is the case. I think abortion is much more common from other causes, and particularly so from disease of the placenta itself. I think the placenta should be removed immediately at the termination of labor, or, at least, in a few hours, and not left there indefinitely. The danger I was getting at was the *remote* danger to the patient. I think Dr. Hoadley must have been exceptionally fortunate in his cases. He apparently has never run across an adherent placenta where there is a great proliferation of connective tissue, so that it is almost impossible to get it away entirely. I remember a case where I curetted a woman who had aborted at about the fifth month, and the placenta remained there twelve or fifteen hours. I curetted then, not so much to get it out immediately to prevent infection, as for the fear that hæmorrhage would be set up. Dr. Harcourt thought the curette should only be used to remove the *debris* of placental tissue; but if a woman aborts in the early weeks of pregnancy the *entire* placenta may be there, and I do not see any counter-indication to removing all of it. In the case where I curetted, fearing hæmorrhage, after fifteen hours, the patient had had pretty strong contraction pains, but there was no loosening of the placenta, and yet I had no difficulty in removing the whole placenta without introducing the hand into the uterus. The patient made a beautiful recovery. I did not care to go into the pathology of puerperal infection very extensively, but I do not think any of us would have difficulty in finding out where the inflammation was; if the patient's parametrium was filled with exudate I do not think any of us would be inclined to curette the endometrium with a view to prevent an infection which had already taken place.

ALLEGHENY COUNTY MEDICAL SOCIETY.

Special Meeting, December 18th, 1888.

J. CHRIS LANGE, M.D., VICE-PRESIDENT, IN THE CHAIR.

DR. DUFF reported a case of

PAINFUL JOINTS, WITH MIXED PAPILLARY AND PUSTULAR ERUPTION.

I was called this evening to see a girl thirteen years of age. Two years ago she was down with inflammatory rheumatism. She came home last Wednesday from school, complaining of slight pain in one of her ankles. There was no perceptible swelling, her mother stated, but the pain increased slightly until Saturday, when the other ankle became affected. On Sunday a papillary eruption appeared on the first ankle, and on yesterday morning a very free eruption appeared on the other ankle. Yesterday afternoon the wrists and elbow on the right side began to swell and pain her, and simultaneously with the swelling, this papillary eruption appeared on both the joint of the elbow and of the wrist, and about this time the eruption became pustular upon the ankles. This afternoon she was taken worse, and simultaneously with the appearance of the pain, the swelling on the other arm and papillary eruption appeared. This evening I found her with a temperature of

104°, pulse 120, pustular eruption on both ankles, and upon the elbow and forearm on the left side there is a mixture of papillary and pustular eruption; whilst on the right arm it is papillary. No local application had been made to the parts except a little camphor liniment.

Dr. Davis reported a case of

AMPUTATION THROUGH DOUBTFUL TISSUES.

About two weeks since a strong, able-bodied Pole was admitted to Mercy Hospital. He was admitted on Tuesday. On the preceding Friday, while coupling cars in a coal works near Punxsutawney, his arm was caught in the coupling and slightly crushed. He brought a letter from the doctor who attended him at the time, Dr. Williams, of Brooksville, or Punxsutawney, stating that the blood supply to the hand had no doubt been entirely cut off, and that he had urged amputation, but that the man had positively refused to have this done, and preferred to go to the city and get advice. The bandage on his arm, I presume, had been none too tight; when I saw it the hand was perfectly black. On looking at the arm, every evidence of gangrene was present. The arm was swollen to almost twice its normal size, with the peculiarly marked discoloration of progressive mortification, with the blistering down near the elbow. The line of demarcation had extended over the top of the shoulder. The resident at the hospital, who had seen him two hours before, assured me that when he had noticed it, it was not within at least four or five inches of the shoulder, and yet in two hours it had advanced to the shoulder with a high elevation, so that by passing the finger over from the healthy tissue to the diseased, you could readily discern the line of demarcation. The man's temperature was about 105°, his countenance anxious, his whole appearance that of one who had suffered an extreme shock to the system, and in whom disease was progressing rapidly. His condition was really critical, so critical that I felt that all hope of his life was surely gone. I called in some of the other gentlemen of the Hospital, and we concluded, at all events, not to let the man die with that black arm, as an amputation was really the most we had to hope for. I amputated the arm at the middle by the circular method, cutting through tissue absolutely black, cutting down through the fatty tissue of the arm and down to the muscular parts, the muscles having become not as yet thoroughly involved. I removed the arm, and then applied almost boiling hot water, and then bichloride solution, 1 to 1,000. I pressed out with the bandage as firmly as I could from the shoulder down all this material, and then filled the conical cavity full of iodoform, put a piece of cotton around, and left it. The man is rapidly improving, and will recover. I know that usually the surgeon who would have done this with any expectation of the recovery of the patient would have been considered very ignorant indeed; but I believe recovery was owing to the powerful antiseptics used, and to the use of the boiling water and the solution of bichloride.

Dr. Murdock: A very interesting case, I think, has been reported by Dr. Davis, and one that is instructive to us all. The old rule in surgery in regard to amputations in such cases was that in gangrene which arose from a constitutional cause, such as is the case in senile gangrene or as is the case where gangrene attacks a patient suffering from diabetes, to wait until the line of demarcation was formed. So also in some cases of gangrene resulting from local causes, such as frost-bite, the rule was to wait until the line of demarcation was formed; but in cases of injury, like the one related by Dr. Davis, I think that the rule was never thoroughly observed by the best surgeons, and that even the older surgeons advocated amputation in certain cases in vigorous patients while the gangrene was still progressing in cases of injury. But previous to the introduction of the anti-

septic method of treatment, no surgeon would have thought of amputating through or so near dead tissue as Dr. Davis did in this case, and if he had done so without such treatment, he would not have been successful; the gangrene would have extended. For that reason this is a very interesting and instructive case.

There is another point which is very instructive and useful. Dr. Davis tells us that the arm was bandaged very tightly above the wound, but he does not think the bandage had anything to do with the gangrene. Whether it had or not, I wish to call attention to something that should be known and well observed by surgeons. It has been my fortune, since I have been connected with the Western Pennsylvania Hospital and before, to see patients brought to the hospital with tourniquets on limbs pressing entirely too tightly above the wound for the purpose of arresting hæmorrhage. I have seen several cases brought, where gangrene has resulted from the tightness of the bandage above the wound, applied in one case by a doctor, and in several other cases by those not professionals. I know of one case where a man was brought not far from here, with a not very severe wound of the leg. A tourniquet had been on the thigh twenty-four hours, and the limb was in a state of gangrene. This was owing entirely to the tightness of the bandage. I have known several such instances, and also instances where patients have been brought with very slight wounds, there being only wounds of veins, the tight bandage distending the veins. Now these frequent accidents justify the belief that if there was none of this tight bandaging, there would be more lives saved than lost as a result. I think more people are injured by the tourniquet applied to wounds than are benefited. This is my experience in these cases. This practice arises from faulty ideas in the minds of the people, which have emanated from the profession. The profession is accountable for the education which the people have, and the reason these cases are frequent is owing to the fact that the public cannot be instructed how to apply a bandage in case of a wound. It requires a great deal of experience to enable one to distinguish between the blood from an artery and from a vein.

The attempts to instruct men who are not professionals, who are not accustomed to observing severe injuries, result in more harm than good. The non-professional man, when he sees a wound, says to himself: "Now, this may be a wound of an artery or wound of a vein; I don't know exactly, but I will be on the safe side; I will put on the bandage above." Thus it happens that in every wound, severe or small, of vein or artery, the bandage is put on above the wound, and usually as tightly as it can be drawn. In nine cases out of ten these instructions result in injury. At a watering-place not far from this city, a little boy fell against a mirror and cut the veins of his wrist horizontally across. There were few gentlemen at the house, and the ladies were frightened; but there were some very intelligent gentlemen present. A tight bandage was put on above the elbow. The wound continued to bleed. Then they held the arm high up. It still continued to bleed. The boy bled for two hours, until the arrival of a physician. The physician stopped the hæmorrhage. He did it by removing the bandage. From like repeated experiences, I am of the opinion that the instruction being given to non-professionals results in more harm than help. If it be wise to attempt any teaching in the control of hæmorrhage, I would advise these rules: If the hæmorrhage be copious, and a bleeding point is seen in any wound, let it be covered by the finger point, and let this pressure continue until the arrival of a physician; if the bleeding be not copious, put a bandage, not above, nor below, but *upon* the wound.

DR. BATTEN: Dr. Davis was fortunate in

the ending of his case. I had some experience in hospital gangrene in '62 and '63. Many of the wounded at that time were afflicted with gangrene. If the leg was wounded, the gangrene would extend around the leg and expose the vessels before amputation was resorted to; but the gangrene was not arrested by the operation. It extended. And in many cases re-amputation above the knee became necessary. I believe the knowledge that is being sown among the laity regarding the care of the wounded is more harmful than beneficial. Persons not accustomed to handling wounds are timid; if they do anything, it is as likely to be wrong as right.

DR. BUCHANAN: I think Dr. Davis is giving rather more credit to the antiseptics than is justified by the case. No one, I think, can be a firmer believer in antiseptic treatment than myself, but I believe that Dr. Davis rather overrated the influence of his antiseptic agents in this case. Either the flaps in this amputation were dead or they were alive. The outcome of the case shows the flaps were alive; but the anti-septic agents are not to be credited as preserving them. Either the lymph channels were swarming with bacteria or they were not. If they had been so swarming, I do not think any application of antiseptic agents would have destroyed the micro-organisms they contained. I believe the man was suffering from the presence of the decomposing member, and that when Dr. Davis removed that, he removed the cause of the disease, and that probably if he had not used any antiseptic agent the irritation would have subsided as quickly.

I do not wish to be understood as saying that the outcome of the case would have been as favorable; in all probability, he would have had suppuration and trouble, but from the description of the case, I believe that the majority of men so affected would recover without antiseptic agents—not so nicely, indeed, but they would recover. I don't believe in giving more credit to the antiseptics than they deserve.

DR. DUFF: It is of importance, very frequently, that the non-professional who may witness an accident involving dangerous hæmorrhage shall possess the knowledge and skill to arrest this until the arrival of the surgeon. I have twice hastened to such cases to find the patients dead of hæmorrhage. It is to be regretted that the instructions now being given to engineers, firemen and the police are lacking in practicability; still they are, perhaps, better than no instructions,

DR. DAVIS: In reply to Dr. Buchanan, I believe that until very recently, there is no authority for cutting through gangrenous parts. I do not know whether there were any bugs in the lymphatic system of this patient's arm or not. I am not much on bugs. I believe it was the hot water and the bichloride. The tissues were full of gas and the cutting pressed the bubbles of gas out, but whether there were any bacteria in them or not, I don't know.

DR. J. J. BUCHANAN read a paper on an

UNUSUAL RESULT OF LONG-STANDING TARSAL CARIES.

The patient, a girl of sixteen years, came under my care in June last, with the following history: Family record free from tubercular or specific disease, health perfect till close of third year, when a bleb appeared over the outer aspect of the *os calcis*, which subsequently broke down and formed the extremity of a sinus leading to the bone. This sinus remained open for years, occasionally discharging detritus of carious bone, till eventually the posterior portion of the calcaneum was entirely gone. Sinuses then formed in other parts of the ankle and lower part of the leg. During these thirteen years her health has been precarious, severe illnesses alternating with periods of comparative health. Some weight could be placed upon the toes till about five years ago, since which time the limb has been perfectly helpless and its great weight has made it much of a burden. For

that length of time she has been obliged to walk on crutches, and the weight of the limb permitted almost no walking outside the house. She has long been unable to move any of the toes or her ankle in the slightest degree.

When I first saw her, her nutrition was fair, pulse 90 to 100 and temperature normal. The limb from the knee down was enormously enlarged and, at the calf, was thicker than at any part of the thigh. It had the shape precisely of a limb the subject of elephantiasis; the skin, however, was comparatively normal, a little thickened and glazed about the ankle. A number of sinuses opened about the ankle and lower part of the leg, all of which apparently led to the astragalus. The condition of the foot precluded the idea of any conservative operation, the only question being whether to amputate through the leg or at the knee. I amputated about the middle of the leg by antero-posterior flaps, using antiseptic precautions. The muscular tissue at the point of section had entirely disappeared and had been replaced by connective tissue. The flaps cut like salt pork, very heavy, inelastic and were made up entirely of connective tissue, with gaping vessels traversing it, and imbedded in it an occasional tendon. A single sinus in one of the flaps required scraping with the sharp spoon. The bones gave evidence of chronic inflammation. The larger vessels were secured by passing under them a needle armed with catgut, and tying them *en masse*.

Subsequent dissection of the amputated part showed its soft tissues to be in exactly the same condition as existed above; careful search failed to reveal a remnant of muscular fibre in the foot. There was complete disorganization of the ankle-joint, absence of the posterior portion of the calcaneum and beginning disease of the tibia.

The stump healed by primary union and the patient was out of bed on the ninth day. Five months later, her attending physician, Dr. Cyrus McConnell, wrote me that the remaining part of the leg had diminished to about the size of its mate and that her restoration to health had been complete.

As to the pathological condition existing here, I suppose that during these thirteen years of inflammation and caries of the tarsus, there had been a constantly increased supply of blood sent to the foot, and that this had caused the enormous overgrowth of the connective tissue of the limb. Dr. John H. Packard, to whom I related this case, suggested that probably there was also an involvement of the lymph channels as in the so-called elephantiasis. I report this case for the reason that I have no knowledge of any similar one, and the literature at my command does not describe this pathological condition as resulting from carious disease.

Dr. Davis: I think in my experience I have seen a case very similar to Dr. Buchanan's. It was a case of caries of tibia of long standing, in a young woman. I cut down on it and scraped and worked around it in the manner of bone scrapers, without hope of doing her much good. The tissues struck me as being in just the condition that the doctor describes. The part did not heal kindly, and after some weeks the limb was amputated above the knee by my colleague, Dr. Dickson. The description of the tissue makes the two cases very similar.

Dr Allen then made some remarks upon

SYMPATHETIC OPHTHALMIA.

The fact that there is nothing in the whole domain of medicine more important than the saving of the remaining eye to the man who has already lost one, will justify the time I shall consume upon the subject. I will not go into a lengthy discussion of the cause of this affection: some men believe that the germ of suppuration travels from the affected eye through the optic nerve to the sound one: some explain it through the sympathy of the ciliary nerves: whatever the cause, the point I wish to emphasize is, the early removal of the injured ball. "Save the eyeball" is a too frequent cry in cases of injury even after the sight is destroyed. It is a cry that is ominous to the patient. Whether there is a foreign body in the ball or not, (a matter which cannot always be determined), whenever the sight has been destroyed and there is any irritation in the sound eye, early and complete enucleation is the best treatment. The injuries that in my experience are most frequently followed by sympathetic ophthalmia are those through the junction of the cornea and sclerotica, involving the ciliary body. When such an injury exists a sharp watch should be kept for the advent of sympathetic inflammation, and upon its appearance immediate removal of the wounded ball is indicated.